Gleanings in Bee Culture

July, 1958 CONTENTS Vol. 86, No. 7

86 years continuous publication by the same organization.

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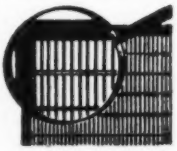

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Monthly HONEY Report

WALTER BARTH
Field Editor
San Antonio,
Texas

THE CITRUS CROP, the first real crop of the season, was generally better than expectations. In California, the orange flow was the best in years with good weather during the bloom. Yields vary greatly but reports indicate that they range from 30 to 90 pounds per colony. The first good orange flow since 1949 was harvested in the Rio Grande Valley of Texas, where reports indicate 60 or more pounds per colony. Although the Florida orange crop varied greatly in different areas, the crop was still better than expectations. The quality was better than any of the past several years and much of it is expected to grade extra light amber or better. Going back to the Northwest, the weather there has been poor so that bees haven't done much at this writing. The honey market remains fair. Sage shows promise in California. The orange crop in Arizona didn't amount to much. Mesquite bloom is not expected to be much either. All hope in this area seems to fall on wild flowers which look very good. Texas is facing a good crop, in fact, the best in years. Rain will be the critical factor, for in some areas there may be too much of it and harm the crop.

Bees look good in Utah, Wyoming, and Colorado but beekeepers are closely watching stores. Prices here seem to be settling at 11 to 12 cents for white honey and support levels for other darker honeys. Honey plants and moisture conditions are good so that beekeepers are hoping for a good crop.

In the midwest, ground and plant conditions are normal. In Iowa, the Dakotas, Kansas, and Nebraska, bees are building up well with unseasonably high and low temperatures. Bee losses have generally been light. Very little beeswax and honey is moving. It is still too early to say much about prices although early reports indicate 12 cents for white honey and 10 cents for the amber honeys.

In the Great Lakes states conditions are also much the same. Bees came through winter fairly well but there has been some shortage of stores. Prices are showing signs of settling at 11 cents for amber and 12 cents for white honeys.

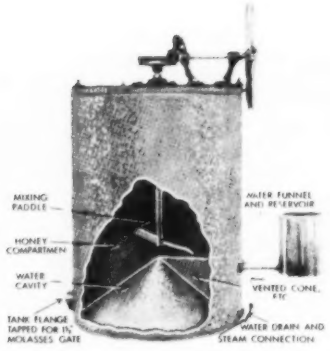
In the southern states some starvation is reported, particularly in Kentucky, Tennessee, and Virginia, heavy feeding going on in other states. In parts of Mississippi and Louisiana bees have been doing well, and are only hindered by rains.

Bees are reported to be late in Pennsylvania. Honey plants are in good condition and the outlook is bright. The demand for bees for pollinating apple orchards has been good, so that a little extra income will come from this source. Honey sales continue to be strong. More local honey could have been sold but the state crop was generally completely sold out.

Then there is New York. It seems that some of my past references to the state of Texas have aroused the ire of some of my New York friends. While my family and I, here in balmy San Antonio have come to like Texas in a big way, we still think that New York is a great state . . . in every way . . . just like Texas. As far as bees are concerned, New Yorkers have a bright future, plenty of available stores so that little feeding is expected. The Finger Lakes area is one of the few places where some feeding is necessary. The only concern here is what the future honey prices will be for the 1958 crop.

Feeding will be necessary in most parts of New England. Moisture conditions are excellent here as they are in New Jersey, Maryland, and Delaware. Hopes are bright for a good crop.

Kelley's Double Boiler



All extracted honey should be heated to about 150 degrees before packing to prevent granulation. Our double boilers are the only low priced item on the market to do this job efficiently. Available in 40 and 80 gallon sizes with either galvanized or stainless steel sides and copper bottoms and with or without mixing paddles. Prices start at $32.00. Write for free catalog.

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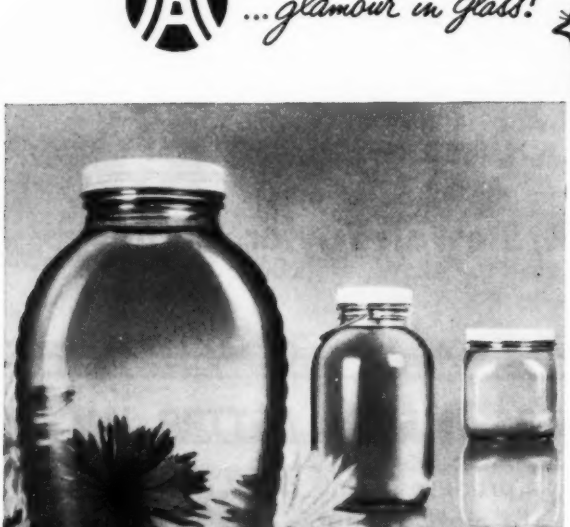

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WHEELING, WEST VIRGINIA

A customer wants to know some of the characteristics of different kinds of honey. Mr. J. E. Cunningham, products' manager of Webb's City in St. Petersburg, Florida, tells her and makes another honey user.

Waiting in Line To Buy Honey

How a store sold over 400 pails per hour

By HENRY J. RAHMLOW
St. Petersburg, Florida

WOULD YOU like to sell, at retail, 103 dozen five-pound pails of honey in three hours? That's 1236 pails. When I was in the business I would have considered the market unusually good if I could have sold that much in one month in any one store. Yet that is what Webb's Drug Store, of Webb's City, Inc. here in St. Petersburg, Florida, sold from 6 to 9 P.M. one Saturday in March, according to Mr. J. E. Cunningham, Department Manager. During the year the store will sell from 1500 to 1800 dozen five-pound jars and tins and a total of about 200,000 pounds of honey in the "Fruit Shopping Department" alone. In the regular super market adjoining, another 20,000 pounds is sold.

Watching a Special Sale

We had the opportunity of watching a special Saturday night "coupon sale" of five-pound tins on April 19, 1958. During the day a stack of 36 dozen tins were stacked in a square 6x6 feet. They were marked with a sign "Regu-

lar $1.39 value. Special today, $1.19". However, that morning the newspaper had carried a "coupon" in Webb's regular full page ad, quoting a special price of 97c "with coupon", limit of three tins per customer, beginning at 6 P.M. Only a few pails had been sold at $1.19 by 6 P.M. but at that hour the rush began. Two cashiers were kept busy and often there were 10 to 15 customers in line carrying one, two, or three tins. We saw a number of folks, on seeing the line-up, ask the two women clerks in charge about the price. The answer was: "Without coupon $1.19, with coupon 97c." Not having a coupon they usually passed on with disappointed looks, even though the price of $1.19 was 20c per tin less than the regular price. We can assume, however, that they would watch the store's ad in the future for other coupons.

One family made quite an appeal to get in on the sale. The man said "We just drove down from Connecticut and would like some orange blossom honey. We don't know anything about coupons. Can't you let us in on it?" The clerk took him aside and as far as we know may have given him a coupon to give to the cashier.

The two clerks were kept busy answering questions, often about the flavor of orange and palmetto honey—the latter was also on sale, but was on the regular store shelf. We heard one clerk tell a customer that the orange blossom honey was "milder and didn't change the taste of coffee as did the palmetto".

At 7:30 P.M. the stack of 36 dozen tins was down to one layer and clerks were beginning to talk about bringing in hand trucks loaded with cartons of tins, when needed. This honey was left in the cartons. Customers seem to like to take the tins right out of the carton and feel they get a bargain that way.

How is it that Webbs can sell honey, sometimes at the rate of about 400 pails an hour, by advertising a "special" which they do a number of times during the year? A newcomer who has never seen such a sale can hardly believe it. I have seen two rows of automobiles a block long waiting to get gas on a "coupon special". The newspaper ad coupon was worth 30c with a purchase of seven gallons or more of gas. We have pushed through a crowd three deep to get fryer chickens at 29c a pound with a coupon—limit two per customer. In April we saw a hand truckload of local strawberries come into the store and the clerks try to unload them onto a counter. As the crates were opened, customers grabbed the pint boxes before the clerks could touch them. Price: 19c per pint with coupon—limit two boxes per customer. A truckload would be gone in ten minutes.

A "coupon" is a square ad with a heavy border in the local newspaper. You must cut out the ad and bring it. Without it, you must pay the regular price. Almost every day Webbs have some kind of special coupons, sometimes a half dozen. The store is always jammed with customers. We have seen larger and more elegant super markets, but never such crowds of customers. The store caters to the middle and lower income classes and especially to retired people. Most of them are bargain hunters. No wonder they eagerly read ads in the newspaper for coupons. Of course, when you go to a store to buy the "specials" you are likely to buy your other needs at the same time.

The sales psychology is terrific. If Webb's offer a "coupon special" folks have come to believe it must be a terrific buy, and it sells honey.

Honey Promotion

The managers of Webbs use several methods of honey promotion, although newspaper advertising is used exclusively for special sales. They consider the display shelves very important and emphasize that the consumer likes a choice of honey flavor. The kinds on the shelves in April were: thistle, mangrove, orange, tupelo, gallberry, and palmetto—all from two Florida beekeepers, David C. Phillips of Clearwater, and Ochs Brothers of Largo. At times they have northern white honey. Cuban black honey was displayed at 59c for a 16-ounce jar. All popular kinds such as orange and tupelo are sold in eight ounce, one pound, two pound, and five pound containers. A very small three ounce jar of orange blossom honey is on display and is often used as a sample to convert new customers.

Customer Education

Webb's clerks are trained to answer

A large
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bulletin

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XUM

A & Z LIBRARY

A large honey display always draws consumer's attention. Seven kinds of honey in various sizes of containers are on the shelves in the Fruit Shipping Department of Webb's City in St. Petersburg. Notice bulletins for reference on display.

questions about honey in the Fruit Shipping Department. This is not true in the supermarket or regular grocery section where the clerks do not contact customers as is the case in most supermarkets. The result is that the smaller fruit shipping section, supervised by a man who takes a special interest in honey, sells ten times as much.

We found the clerks quite able to answer questions about kinds of honey and their uses. Something we have never seen before in a store is a display of **Florida State Bulletins,** hanging from strings on the shelves of honey. Index tabs are fastened to the pages so that information on honey sources can easily be found. We were interested in **Tupelo** honey which Mr. Cunningham claims is one of the best in flavor. We easily found the tab with the word tupelo and in a few minutes had read about it.

Bulletins on display from the Florida Experiment Station at Gainesville are: "Beginning Beekeeping in Florida", by Haynie and Murphy; "Some Honey Plants of Florida", by Arnold; "Honey in the Home", by the Extension Service. The Department of Agriculture at Tallahassee provided "Florida Honey and Beekeeping". The bulletins were all well worn, indicating frequent use. They also enabled clerks to get correct answers to questions. Anyone interested in the bulletins could take down the names and addresses and send for copies.

Why Do People Buy Honey?

We put this question to Mr. J. P. Caldwell, one of the super market managers. He answered: "For better health!" He assured us that the grocery department did not begin to sell the amount of honey that Mr. Cunningham's Fruit Shipping Department did and gave him credit for a fine job of promotion. Asked which type of promotion he thought best, he replied:

XUM

"Everything you can do helps". He suggested reaching the younger generation through education of the value of honey in the diet. He feels that usually older people are buying the honey "because they get used to it". This may of course be due to older people being more "health conscious". They are reading the articles about the health value of honey more seriously than the younger generation. In fact, Mr. Caldwell thinks that the reason the dark and strongly flavored kinds, such as Cuban honey, sell so well is due entirely to promotion of honey for health reasons.

Promotion on T. V.

In our discussion on Honey Promotion we agreed that television today offers beekeepers a wonderful opportunity to bring to the public the virtues and food value of honey. Although the national networks are cutting in on the time formerly used for "live" programs on local stations such as the "Homemakers' Hour" still many stations welcome programs on foods by local groups.

Here are suggestions for demonstrating honey on T.V.:

1. Show and demonstrate **easy ways** to use honey. Avoid long and complicated recipes or those using only a very small amount of honey.
2. Emphasize the colors and flavors of honey. There is a flavor pleasing to every person.
3. Write the American Honey Institute, Madison, Wisconsin, for facts you can use on the vitamins in and health value of honey. Don't make statements which cannot be proven.
4. Remember that folks watching T.V. can switch programs very easily. A program must be short and full of "attention holding" statements and scenes. A matured person, such as the wife of a beekeeper, or a food specialist in whom the housewife feels confidence, will carry conviction and hold her attention best.
5. Don't forget to feature "Honey on the Table". Honey lovers use honey on pancakes, biscuits, on bread and even on pie and cake. Let's get more folks to do the same. Perhaps it will be best to let someone who really loves honey in these various ways do the telling. Others might not convince T.V. listeners.

Nomenclature of the Apiary

By LESLIE BURR, El Centro, Calif.

SAGE AND SAGE BRUSH

Sage honey in California is a product of the sage blossoms—which yield honey when there has been sufficient rain, and this year of 1958, from present indications, California should produce a crop of sage honey. Anyway, **we have had the rain.**

Sage honey is gathered by the bees from various varieties of the sage plants. While the plants may differ widely in appearance, if in doubt, crush a few of the leaves in your hand and the distinct sage aroma will identify it.

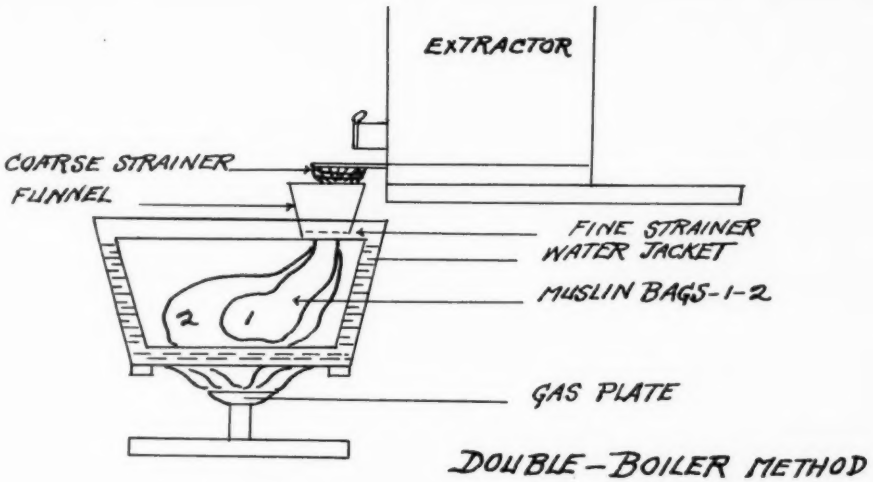
But, to the general public living on the West Coast, the term "sage brush" is applied to any desert brush, whether the plants are of the sage family or not, and has superseded "chaparral", a term applied to almost any low-growing brush in the semi-arid country.

Chaparral and Chaps

Chaparral is a Spanish name for low-growing brush and since it is thorny the early cowboys wore leather over-pants, called "chararijos", abbreviated to "chaps", to protect their legs. These terms may still be generally used in the "cattle country" but the general public have adopted the term "sage brush" even though there may be no sage within a hundred miles.

However, for the California beekeeper, who harvests sage honey, when he speaks of the **sage brush,** he will mean just that, and not just any bush that happens to grow wild in his vicinity.

Concerning Sage, read the text books on "Bee Culture" and "Honey Plants".



DOUBLE-BOILER METHOD

Competing For Clearness

By CHARLES W. GOUGET, Glen Ellyn, Ill.

GIVEN AN attractive container and a good honey, the small producer is competing largely with the clearness of other honey on the grocer's shelves. Crystal clear honey is usually associated with purity and quality by the consumer, therefore, the fact that a murky honey with pollen grains may contain more vitamins than a clear honey becomes actually a deterent to sales rather than an adjunct. As a result the small producer is faced with the fact that he must compete with filtered honey put up by larger producers and distributors who can afford the best of equipment.

Unless he sells his product entirely from his own stand, he too must produce a crystal clear honey: a murky honey will not do if he intends to increase his sales and maintain his market. Since he cannot afford expensive filtering equipment he must find a "do-it-yourself" method of clearing his honey that will work almost as well as a filter. In the past "do-it-yourself" has meant two or three thicknesses of cheesecloth, but today this method will not do the job well enough for the competitive market. However, unbleached muslin does an excellent job of straining comparable to almost any filtering method, provided that the proper procedure is used. A very successful method of using unbleached muslin is described below. See diagram.

In order that honey may pass through muslin as easily as possible it must be kept hot, and where heat cannot be applied continuously the use of muslin will be too slow. This fact may present a problem for some "do-it-yourself" straining methods.

The double-boiler method of heating smaller quantities of honey is especially adaptable for the use of muslin bags because the bags rest on the bottom of the inner container in direct contact with the heat. In this way the heat can be applied constantly to the honey in the bags where it is needed to keep it thin enough to pass through at a reasonable speed. See diagram.

Two common kitchen strainers are used to catch the larger particles of wax before the honey enters the bags. The second strainer should have a mesh about equal to that of ordinary screen wire and the first can be almost any-

(Continued on page 442)

Self-service roadside honey market of John W. Ziegler near Mifflintown, Pennsylvania.

Honey Sells Itself At Unique Roadside Stand

ROBERT L. BULL, Agent in Retail
University of Delaware
Marketing, Agric. Exten. Service

ATTENTION OF highway travelers along busy U. S. Highway 22 near Mifflintown, Pennsylvania is drawn almost instinctively to the attractive grassy knoll on which John W. Ziegler has erected a neat, inviting little building bearing the sign "Serve Honey Yourself". This successful little honey market has been appropriately described as "a monument to the honesty of the trading public" because, once inside, the visitor finds no attendant. Customers are instructed simply to take the honey and leave the money. A convenient money slot has been made above a drawer in the table top on which an interesting variety of honey flavors and containers is on display.

"The honor system here is one of our chief selling points", Mrs. Ziegler comments, "and we are more than pleased with the way it has worked. People who haven't the right change will send us even a dime with a note of explanation." But most customers have no trouble in getting change, because an open dish of coins for change is thoughtfully provided near the money slot.

Visitors to the Ziegler honey market have a special treat in store for them when they enter the building for the first time. Along the back wall, Mr. Ziegler has constructed a glass enclosed hive that makes a particularly fascinating exhibit for families with chil-

dren. Bees enter and leave the hive through a slot in the wall of the building itself. The queen has been painted for easy identification among her subjects. Also on exhibit are posters giving the analysis of the honey and describing the life and habits of bees. Special interest in bees and honey that is stimulated by these educational displays undoubtedly does much to increase sales.

Those who know him probably were not surprised when they first saw Mr. Ziegler's educational exhibits because his chief vocation is teaching. Mr. Ziegler is the industrial arts instructor at Juniata High School in Mifflintown.

The honey business began as a hobby for Mr. Ziegler some 21 years ago when he discovered a swarm of bees and moved them into a hive. Today there are well over 70 hives on the Ziegler property and the business is growing rapidly as the market becomes increasingly popular. Supplementary supplies of honey are purchased from the south for re-sale at the market. This lends even greater variety to the displays. Orange blossom, tupelo and gallberry honey from Florida are featured along with clover, buckwheat and other popular flavors and blends produced by Mr. Ziegler himself.

Great care goes into the production of the local flavors, and hives are moved throughout Pennsylvania. In August Mr. Ziegler takes them to Jefferson County for the buckwheat blossom season. In September some are taken to Elk County, famous for its goldenrod. Clover, poplar, raspberry, and locust blossoms provide honey for delicious blends.

Mr. and Mrs. John Ziegler and their oldest son, John, examine the glass enclosed hive that fascinates customers calling at their roadside honey market near Mifflintown, Pennsylvania.—Photo by The Fairview Studio, Lewiston, Pa.

Customers come from all over the United States, from as far away as Florida and California. The Zieglers know exactly where all of their customers come from, in fact. Each person making a purchase is asked via a little sign to write his name and address in the sales record book and list his purchases. This unusually complete record is a valuable one, the addresses permitting direct mail advertising if the owner should decide to offer gift packages of honey or other products for delivery by mail. Many visitors write comments in the sales record book thanking the Zieglers for the interesting exhibits, complimenting them on their products and wishing them continued success with their venture.

It was his unusually effective marketing methods, fully as much as his sound production practices, that turned Mr. Ziegler's honey hobby into a satisfying and profitable business.

Five satisfied customers leave the Ziegler honey stand with jars of honey and with a better appreciation of the honeybee.—Photo by The Fairview Studio, Lewiston, Pa.

Better Bee Pastures

By CHARLES DORWORTH
State College, Pa.

ART MEYERS, a good friend of mine, had been putting out a good grade of light clover honey for years. It was in just these last few years that his bees began to bring in a darker grade of honey. Of course, this came back to Art in the lower price he received for the honey. I dropped in on Art a few weeks ago, and he showed me a jar of almost white honey he had extracted. I asked him how he had solved the problem, and here's what he told me:

Art said that he had taken a long walk last spring to see what his bees were working. He noticed that the pastures and meadows on the neighboring farms, which used to support good crops of white clover, were mostly turning to weeds. Some had been overgrazed and were starting to erode. He talked to the farmer who lived closest to him, and found that he was planning to reseed in red clover. Art suggested that if his neighbor were to plant his pastures in red clover, he would have trouble in getting seed production. The nectar of red clover is too deep within the blossom for honey bees to work easily. Art further suggested to his neighbor that if he planted white or alsike clover, he would be sure of good pollination by the bees from Art's hives. White clover fields located near an apiary will produce two to three times the normal seed crop.

The farmer decided to follow Art's advice and he is well pleased with the

results. The white clover is producing good forage and grazing, plus a good crop of seed.

Art didn't stop at this. Some of the other farms in the area were run down, and the clover had been replaced largely with weeds and poverty grass. Art told the neighboring farmers that a good clover crop would not only benefit him as a beekeeper, but also would benefit the farmer. In depleted soils, the nitrogen is usually deficient, as are potassium and phosphorus. If these farmers were to fertilize their pastures and meadows and then plant a crop of clover, they would be sure of fertile fields. First, the clover would prevent erosion and the leaching away of valuable nutrient elements. Secondly, the clover would add an abundance of nitrogen to the soil.

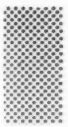
Art found there were questions that he couldn't answer, but he referred these questions to the county agent, and was soon back with the answers. The county agent also told Art that lighter grazing would have prevented depletion of these fields and erosion.

If you drive through our part of the country now, you will see many acres of good, fertile pasture. Through this work, Art gained a lot of friends for himself and a lot of friends for beekeeping.

If you are faced with this problem of sick bee pastures, now is the time to act. Many acres are going into the Soil Bank each year, and these can be good acres for you..

The farmer is in business just as you are. If you're honest and know what you're talking about, he'll listen.

The best way to put this program across is through your local beekeeping association. Get the members interested in this program and go to work. This is a big job, but if you do it in the name of your association, it will be an easier one. As many farmers are also beekeepers, they will be a great aid. As a matter of fact, why not start now!



To the Rescue

By E. D. FOX, Washington, D. C.

IT WAS FALL and the weather was ideal but this was housecleaning time for me. I was reluctantly washing venetian blinds and windows inside the house. Mentally I was strolling through an autumn painted forest or sailing away on a placid blue lake.

Any interruption was welcome and very easily lured me from my task. When I noticed a large wasps' nest clinging to the top of a window overhang I went out for a closer look.

I wasn't the least bit interested in that wasps' nest. What really attracted my attention was a small spider busily spinning a web below the nest. Two large flies were already trapped within. My real concern was for one honeybee which happened to be flying dangerously close to that cunningly prepared snare. In a few seconds the bee was caught and helpless for the spider was drawing it closer and closer to its doom.

Now this was not a day dreamer such as I and definitely not a lazy creature deserting necessary chores. This was a loyal member of an industrious bee colony. In my opinion, it did not deserve the inevitable fate now in store for it if I failed to intervene.

I found a broom in a hurry and placed it quite carefully under the small captive so she could grasp the broom straws while I pulled off part of the web. When she had a good hold I removed the broom.

Just as carefully I placed the broom on the lawn to allow the honeybee to free herself in the grass. In a moment or two she did just that and immediately deserted the scene as if she knew what a narrow escape she had. Recovery was speedy and true to form, as I watched, and the busy little lady paused over a flower bed and began to gather pollen. A little later she disappeared in the direction of the bee yard.

My spirits were just a bit lighter when I returned to my work indoors. After all, I had performed one tiny good deed for the day.

Honey Candies

By

EDWIN J. ANDERSON
University Park, Pa.

Professor Anderson observing the coating of pecan clusters in his laboratory.

HONEY WITHOUT the addition of cane sugar as part of the recipe can be used to make fine quality candies. The six different candy recipes given below, as well as many others, have been developed in the University Laboratories. The candy made from these recipes has been tasted on numerous occasions by those who visited our laboratory and by beekeepers attending meetings where the candy was distributed. A number of the recipes were checked and improved by the Department of Foods and Nutrition of College of Home Economics. Most of those tasting the candies reported them to be of fine quality and more satisfying than other kinds of candy.

Not all the problems involved in honey candy making have been solved, however, but a long step in that direction has been made as is indicated by these recipes.

Honey is a natural sweet that contains proteins, colloids, acids, gums, volatile flavoring materials, and other ingredients that make it quite different from simple refined sugars commonly used in candy making. Some of these materials cause honey to develop a reddish color and burnt flavor when heated to high temperatures. The recipes given below were developed to avoid this discoloration and the development of undesirable flavors.

Many honey candies will absorb moisture and become soft and watery on the surface if they are not consumed soon after they are made. The higher the moisture content of the air, the quicker the candies become sticky. Honey candies coated with chocolate are of course protected against moisture and will keep as long as other candies. To be successful with honey candies, the one making them should learn how to use melted chocolate. The chocolate may be used as a coating for individual pieces, as a lining and cover for bon-bon or corrugated paper cups filled with honey candy or as a protective layer for the top of candy that has been poured on a plate and cooled.

Some helpful hints for making honey candies are:

1. For most kinds of honey candies use a light-colored mild-flavored honey.
2. Most types of honey candy are improved in flavor by the addition of nut meats of different kinds or coconut.
3. All ingredients used in making honey candies should be fresh and of good quality.
4. The humidity of the air affects the making of honey candies. Results are more satisfactory when these candies are made on a cool dry day.
5. The dipping of honey candy centers in chocolate is an art that requires practice before success may be achieved. It is no problem, however, to cover the honey candy with melted chocolate after the candy has been poured in a buttered dish and left to cool. The chocolate is melted above water heated to 130°F. The chocolate is then cooled to about 81 to 83°F. and is beaten with a spoon while it is heating and cooling. It is then ready for use. It is best to follow temperatures provided by the manufacturer for each type of chocolate used. Mostly hot chocolate was used in this piece of work.
6. Candy to be dipped or covered with chocolate should be cooled at least to 70°F. before it is dipped. Placing the candy pieces in a refrigerator before dipping in chocolate will facilitate the process and give better results.
7. Milk chocolate was preferred by a majority of those tasting the candies.

Honey Fudge No. 1

Six squares semi-sweet chocolate, ¼ cup nonfat dry milk solids, ¼ cup cream cheese (2 oz.), ¼ cup liquid or creamed honey, 1 tablespoon butter, ⅛ teaspoon salt, ½ cup chopped nuts.

Melt the chocolate over hot water (130°F.) and cool to 95°F. Mix all other ingredients except the nuts until smooth. Combine the melted chocolate and nuts with the creamed mixture. Spread into a buttered 8-inch plate and cut into squares when cool. A pleasing variation is to substitute 1 cup of pecan halves for the chopped nuts. Note: If this candy does not harden because of warm temperature, place it in a refrigerator to harden and serve while cold.

Honey-Apricots

One-third cup creamed honey, 3 tablespoons non-fat dry milk solids, ⅓ cup packed ground apricots, ½ cup finely chopped nuts.

Mix the honey and milk solids until smooth. Add the nuts and ground apricots and mix well. Form into balls and roll in finely chopped nuts. This candy may also be formed into bars ½ inch thick, 1½ inches wide, and 3 inches long, then rolled in finely chopped nuts or coated with chocolate. This candy makes an ideal energy bar for hunters.

Caramel-Pecan Clusters

One teaspoon cornstarch, ¼ teaspoon salt, ½ cup evaporated milk or cream, 2 tablespoons butter, ½ cup honey, ¾ cup maple sirup, 1 cup whole pecans, 5 squares semi-sweet chocolate.

Mix the cornstarch, salt and cream thoroughly in a saucepan, mix in the butter, honey, and maple sirup. Place on direct heat and stir constantly until the temperature of the mixture reaches 250°F. or until the sirup when dropped in cold water forms a slightly firm ball (about 40 minutes). While the candy cools slightly, butter a cookie sheet and dust with confectioner's sugar. Place whole pecans in groups of 2 or 3 on the dusted sheet about 2 inches apart. Drop the caramel mixture on top of the pecans. While the caramel sets, melt the chocolate over hot water, stir continually and rapidly until the temperature of the chocolate reaches 120 to 130°F. Cool the chocolate over cold water, stirring continually, until the temperature reaches 81°F. to 82°F. Coat the top of each caramel-pecan cluster with melted chocolate after they have cooled to room temperature, or were cooled in a refrigerator. The clusters may also be dipped in chocolate.

Honey Jelly Drops

Two and one-half teaspoons gelatin, ¼ cup frozen orange or other juice, concentrated, ½ teaspoon grated lemon rind, ⅛ teaspoon salt, ½ cup honey, semi-sweet chocolate for bon-bons.

Soften the gelatin in the fruit juice, lemon rind and salt. Heat the honey to 185°F. Pour the hot honey into the gelatin mixture and stir until the gelatin is dissolved. Fill the chocolate coated bon-bon cups with the slightly cool-

Mary Trostle making honey candy in the beekeeping laboratory.

ed jellied mixture.* Cover the centers with melted chocolate after they are cooled at least to room temperature.

***Chocolate-coated bon-bon cups**

Melt six squares of semi-sweet chocolate over hot water heated to 130°F. Stir continually and rapidly until the temperature of the chocolate reaches 120 to 130°F. Cool chocolate over cold water stirring constantly until the temperature reaches 83°F. Using the round handle of a wooden spoon, dip in the melted chocolate and coat the inside of the cup. A pastry brush will also work very well for coating the cups either inside or on top. Place the coated bon-bon cups upside down on a rack or buttered plate to cool. Fill the cups with the honey candy, then dip or cover the tops of the pieces with melted chocolate cooled to 81°F. after the candy has cooled to room temperature or was chilled in a refrigerator.

Honey Cream Taffy

One cup honey, ⅓ cup evaporated milk, ¼ teaspoon baking soda, ¼ teaspoon salt.

Combine all ingredients in the top of a double boiler. Cook over boiling water; beat constantly with an electric mixer until the temperature reaches 195°F. (about 30 minutes). Pour into a buttered dish and cool until the taffy is easily handled. Pull the taffy with buttered hands until it becomes light in color and fairly firm in consistency. Twist the taffy, cut with shears and wrap in waxed paper or Saran wrap.

Honey Chocolate Roll

First part

Six squares semi-sweet chocolate, 1 tablespoon cream cheese, ½ cup nonfat dry milk solids, 2 tablespoons honey.

Melt chocolate over hot water heated to 130°F., cool to 120°F. Mix cream cheese, honey and powdered milk until smooth, add chocolate to above mixture and mix thoroughly.

Second part

One tablespoon gelatin, 2 tablespoons cold water, ¼ cup light honey, ¼ teaspoon salt.

Soften gelatin in cold water. Heat honey and salt to 150°F. Pour the hot honey into soft gelatin and beat with electric beater for about 5 minutes. Mix the first and second parts immediately. Place in refrigerator, when firm shape into rolls, then roll in chopped nuts, coconut or malted milk crunch. Wrap in wax paper or Saran wrap and cut in slices when ready to serve.

Suggestions

1. Beating the mix with an electric beater for about 5 to 10 minutes makes the texture of the candy more smooth and firm.
2. This candy will be firmer if kept in refrigerator until served.
3. The recipe given for caramel-pecan clusters may be substituted for part one of this recipe for a delicious variation.
4. Small rolls may be made and dipped in finely chopped nuts then in melted chocolate.

A leaflet containing 17 recipes may be obtained by writing to Edwin J. Anderson, 9 Dairy Building, University Park, Pennsylvania.

Water Bath Extraction of Honey

By OLIVER F. FINK, Columbia, Mo.

WE HAD MOVED to Bee Skep, our farm in Boone County, Mo., in March of 1956. Our "new" home was a rundown old farmhouse, and between trying to get it livable and holding down a full-time job, I had no time to work my four colonies properly. The bees, unaware of my crowded schedule, made the most of great masses of sweet clover that had taken over roadside and unplowed fields, with little competition for the harvest since Apis Mellifera is relatively scarce in this vicinity. The workers hauled in nectar almost as fast as I could pile on spare supers and boxes, anything I had handy on top, and by mid-June I ran completely out of equipment. Whereupon the little critters began to swarm.

I could not remove the frames for extraction and replacement—not only did I lack the time, but I had no place to set up the extractor where I would not be overpowered by bees.

There seemed only one solution. On a week end my wife cleaned and sterilized about two dozen quart fruit jars, while I donned bee veil and gloves. Opening the hives, I took out filled frames, brushed and smoked off the bees, and passed them on to my two children to be relayed to my wife. She cut out the comb in chunks. The empty frames were relayed back to me and placed in the supers uncleaned and without foundation, for the bees to refill as best they could.

They did refill them; they even built beautiful loops and curves of comb filled with crystal white clover honey between two frames that were left three inches apart because I ran short of empty frames, dropped a half moon of comb into a space below where another frame was missing. They built comb in every available cranny, and at least twice during the summer I repeated the robbing process.

As a result we had dozens of jars of chunk honey—of which we are very fond—but no extracted honey, of which we are also very fond. Came fall and, still lacking time and place, I took off eight supers and stored them as a reserve for extraction, if and when. Yet we wanted some extracted honey.

It then occurred to me that I might extract my honey right in the jars, by a modification of solar extraction. I tried it, it worked, and now when we want extracted honey I take a jar or several jars of chunk honey, set them in a pan of water on the stove or the oil burner. When the wax has softened to about the consistency of putty, I open the jars, mash the comb well with a fork to break the cells, replace the lids loosely enough to let steam escape. The jars are set back in the water bath until the wax has softened enough to separate from the honey to float to the top.

At that point I seal the jars as tightly as possible, invert them in the water bath, and keep them there until the wax has again floated to the top of the honey; that is, to the bottom of the jar which is of course uppermost. Jars are removed from the water bath and allowed to cool enough for the wax to harden into a compact mass, still being kept upside down. After that it is an easy matter to remove the lid and pour the honey into another container.

The honey extracted in this manner, we learned to our surprise, does not take on the strong flavor of wax, and is as clear as honey removed in an extractor. We do not even strain it. It is of course in a way a method wasteful of wax, since the comb is destroyed and the bees have to rebuild, but they do anyway for chunk or comb honey—and I repay them at cut rate wages by using the wax residue to make honey syrup for supplementary feeding or by putting it on a dish near the hives on warm days where they can rob out the honey.

It may interest some beekeepers to know that I have used the quart jar method for solar extraction, setting the inverted jar of crushed comb in the hot sun until wax and honey separate, instead of putting it in the water bath.

How I Solved the Gas Chamber Problem

by

PAUL STEFFEN

Medina, Ohio

MANY TIMES in the past four years I have read articles concerning the fumigation of supers of combs, etc.; and almost without exception the gas-chamber has been mentioned. The longer I was in the bee business, the more I wished for the convenience of an air-tight chamber in which to do my fumigating. I realize that one solution to the problem is "taping all cracks", which I have done once or twice; but I don't like the expense of all that tape, nor the amount of time it takes to apply it.

After several months of pondering and a few neglected combs that were nearly ruined by wax worms, I decided to procure an old refrigerator, remove its "insides", and use it as a small gas-chamber. I thought it would hold enough supers and hive bodies to take care of my small outfit. I soon found out, however, that the inside dimensions of any discarded refrigerator that I have ever seen were too small to admit anything as long as a standard 10-frame hive body.

A few days later my mother heard of my plight and suggested using plastic (polyethylene) bags. That settled it. We sent for a sheet of clear plastic from Montgomery Ward, and my wife cut it to size and sewed it together on the sewing machine.

One piece was cut 8 ft. by 5 ft. (the 5 ft. being the height); then a piece about 25 in. by 22 in. was cut to insert in one end. This was done so that the bag would have a box-type end, and could easily be slipped over the top of a stack of supers and fit well. She made flat seams; one edge overlapping the other, then stitched at each side. The seams are two inches deep, and made with the longest stitch the machine would make. The second bag was made from a piece of plastic of the same size, but instead of being made with a boxed-end, it was stitched like any ordinary feed bag is stitched; down the side and across one end.

In spite of the many problems confronting one when sewing plastic, the gas-chambers were made successfully, and have proved quite satisfactory. Each of these plastic gas-chambers will cover five standard hive bodies, which is usually all I need to fumigate at one time.

HELPFUL HINT

From N. J. Beekeepers' Association News.

IF YOU have a rotary lawnmower you have probably been looking for a tool to scrape matted grass clippings from the bottom of the shell. You already have this tool — your hive tool seems to have been designed for this job.

Do not discard the chunks of felted grass from the mower. When dry they make the best smoker fuel we have used.

Catching A Honey Addict

By HARLEY SELWYN
Kirk's Ferry, Quebec, Canada

ONE OF THE strangest experiences of my beekeeping life occurred this last summer and I believe it is worth recording.

The circumstances of the case are briefly as follows: 1957 proved to be a fairly good year for comb honey and I was fortunate in having a good crop of finished sections on the hives by August. Several supers of these were brought into the honey house for sorting and cleaning each day, often being left on the work table over night. The building is bee proof but not impervious to rodents as it has no sealed floor. Imagine my surprise one morning to find a portion gouged out of half a dozen prime sections. I concluded this must be the work of field mice of which there are many about the yard. However, mousetraps brought no result although the traps were sprung and additional sections defaced. Rat traps set along a stack of sections were also tripped but always empty.

An examination of the foundations of the building showed evidence of an entry way for a rat but a trap carefully set several times in this runway brought no results though the trap was always sprung.

I then tried a new approach by building a box-like tunnel outside, placing two spring traps in the runway so that one or other would be liable to be triggered and a cob of ripe corn at the back end served as added bait. Next morning's visit to the beeyard showed both traps sprung and the corn husked and eaten. How both traps failed in this narrow passage will always remain a mystery. A second attempt proved no more successful. After the third try (and I was feeling thoroughly nonplussed now) what was my surprise to find in one what looked suspiciously like the end of a furry tail. Could it be a squirrel? I could hardly believe my eyes.

Well, I thought, that will teach him to stay away from my honey! In the meantime, I had been taking the precaution of storing the sections in wooden boxes each night with a wire cover on top.

What was my consternation about two weeks later to find the side of one of these spruce boxes eaten through and more sections destroyed. Truly, this was no mean adversary I had to deal with. Even the loss of half a tail was no deterrent! Could a squirrel become a honey addict?

Still unwilling to admit defeat, I decided to change my procedure and use a steel mink trap. A hive body half filled with soil was placed on the floor and in it the trap was buried level with the surface, carefully covering everything but the plate or trigger. Around this, I set four comb honey sections. A second super on top guaranteed the victim would have to come down head first and in working on the sections be almost sure to put a foot on the trigger in such cramped quarters.

The following morning I was quite excited as I entered the honey house and peered down inside to see if I had at last outwitted my adversary. Sure enough, there, so mixed with earth and honey as to be almost unrecognizable was a full grown red squirrel, caught by one hind leg. Later examination showed him to be minus one half of his bushy tail. The lure of the honey had been too great!

"I thought I detected a slight murmur of discontent!"

PRODUCING *Royal Jelly*

by

NORMAN GARY
Ass't. in Apiculture
Cornell Univ., Ithaca, N. Y.

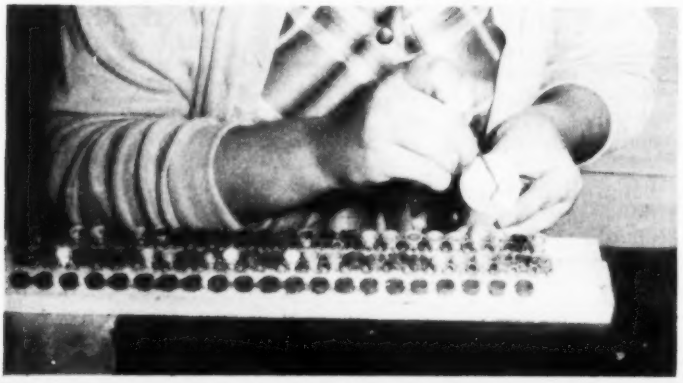
Mr. George Curtis, who directs the royal jelly operations.

THE ADVANCED apiculture class at Cornell University recently took a field trip to Florida to observe beekeeping practices there. During our trip we stopped at George Curtis Apiaries, LaBelle, Florida, in order to observe the techniques used in royal jelly production. I was able to get a few pictures of the operations.

Overall System of Production

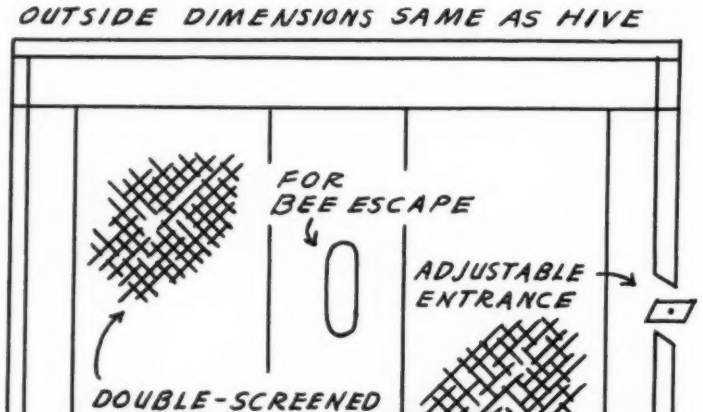
Started cells about three days old are brought into the grafting room from nearby apiaries. They arrive at frequent intervals so that the jelly is fresh. Next, the contents of the cells are exposed and made more accessible by carefully shaving the tips from the cells with a razor blade. The larvae are removed by plucking them from the jelly with pincers by hand and discarded. The cells are sucked fairly clean by the vacuum apparatus and the jelly is collected in the small jar. The empty cells are primed with a small drop of jelly immediately before grafting. Tiny larvae are then gently floated off the grafting needle into the jelly in the primed cells. Very shortly after grafting the cells are carried back to the cell-building colonies and introduced. By the time a load of grafted cells are ready the men arrive with a fresh batch of started cells to be extracted.

The cells are primed with royal jelly just prior to grafting. A small drop of jelly placed in the bottom of the cells prevents the larvae from drying too much before the cells can be introduced to the cell-building colonies.



Grafting the tiny larvae into the cells is done by girls under well-lighted conditions. This is the overall view of the grafting operation. Good illumination, comfortable chairs, and a slightly inclined table do much to make the job more pleasant.

An electric vacuum pump (upper right) is connected directly to the small collecting jar. A second outlet connects to the plastic tube which sucks the royal jelly from the cells very efficiently. Between 70 and 90 cells yield 1 ounce of jelly.



The Versatile Screen Board

by WESLEY A. ORTH, Honesdale, Pa.

IN VISITING the bee yards of my friends and others I am always amazed that I seem to be about the only one who uses screen boards. They can be used for so many operations and prove so useful that to me they are as much a part of beekeeping as the hive tool.

The screen board that I use is a bit different than those commercially produced as mine suits my use to a greater degree. The enclosed sketch shows the additions that I have developed and find so useful.

I make these from scrap lumber about ¾ of an inch thick. I also use the wire from bee shipping packages to cover both sides of the screen board. The middle board in this device is cut out to take a bee escape and is fitted with a removable block with a piece of ¼-inch lumber nailed on top of the block to keep it from falling through the hole. This block is similar to the blocks that are sometimes furnished to fill the escape hole in inner covers. Another addition to the board is that the hole through the rim is furnished with a swiveling block so that the entrance can be enlarged or entirely closed.

For Establishing Two Queen Colonies in April.

I find a colony that is strong and remove more than half of the brood from the brood nest and put it in another super making sure that the queen remains in the old brood nest. I then put the screen board on top of the old brood nest and put the super that is to be the new brood nest, on top of the board with the rim entrance open enough to allow room for just one bee to pass through.

I then give the top body a new queen in the mailing cage. Within about a day and a half I open the hive and release the queen if she is not already released. These queens very seldom fail to be accepted as the older bees

that were on the frames of brood have returned to the bottom brood nest leaving only the younger bees in the new nest. As the heat from the lower brood nest helps keep the upper nest warm until it is well established it is not long before there is a rousing colony in both the upper and lower parts of the hive. Supers are added as necessary for brood rearing as the season progresses. At the start of the honey flow about June 10th the screen board is removed. The upper queen is gradually forced down and becomes the remaining queen. Requeening has been accomplished with no cessation of brood rearing and usually there is no swarming problem. Queen mating nuclei may be established in the same way by giving a ripe queen cell instead of a queen.

I have used the screen board in introducing queens where other methods just would not seem to work. A couple of frames of brood from another colony were put above the problem colony with a screen board in between and a queen introduced into the upper colony. As soon as she was laying well the board was removed and like magic the new queen was accepted.

I like to use the screen boards as escape boards better than the usually recommended inner cover. It has been my experience that due to the screening there is less danger of the combs above the escape becoming too warm and melting down.

Do You Ever Get Calls to Pick Up a Swarm?

I do and that screen board proves to be a very handy gadget. I staple the board to the bottom of a hive body containing frames with foundation or combs, and then nail on the hive cover. I take this bee-tight hive, open the rim entrance, and proceed to get the bees to enter the hive. After nightfall I close the entrance, pick up the hive, put it in the truck of my car, and take it to one of my bee yards and open the entrance. The first chance I get I put the frames in a new hive body on the same location and remove the swarm-carrying hive to be ready for the next telephone call. No fuss, no bother, no stings.

Now after using the screen board all summer it is again put to work in the winter. This works very nicely to make stacks of supers of empty combs bee and rodent proof over winter. Put the block in the escape hole, turn the screen board upside down on a bottom board, then pile the supers on top adding a hive cover, of course, to the top of the pile. If the supers are tight you need never worry that mice are making nests in the supers or that they are being robbed out.

Another winter use of the screen board is to provide ventilation for a colony of bees. Put the board on upside down just under the cover. The rim entrance should be open. The bees will use this opening for winter flight. When using the screen board as above, it is not necessary to mar the hive bodies by drilling holes in them. The fact that this ventilation hole is at the top of the hive does not seem to cause any adverse wintering conditions.

SHADE FOR BEES

by ROBERT J. WYNDHAM
Upland, Calif.

THERE IS NO doubt that during the summer heat the best location for hives is where they have at least part shade. Where trees are absent a lattice shade will help a lot.

However the migratory beekeeper cannot always comply with this requirement. Then it is a sorry sight when part of the working force throws up its hands and is hanging outside of a hive, as it is too hot inside. Yet something can be done to bring some relief.

One measure is to move the cover a little sideways, so that there is a crack of about one-eighth inch for ventilation. Then it helps a lot to put an extra cover on top of the hive. Old covers which are no longer serviceable will do fine. Leave an air space between covers. Even pieces of cardboard weighed down with rocks are better than nothing.

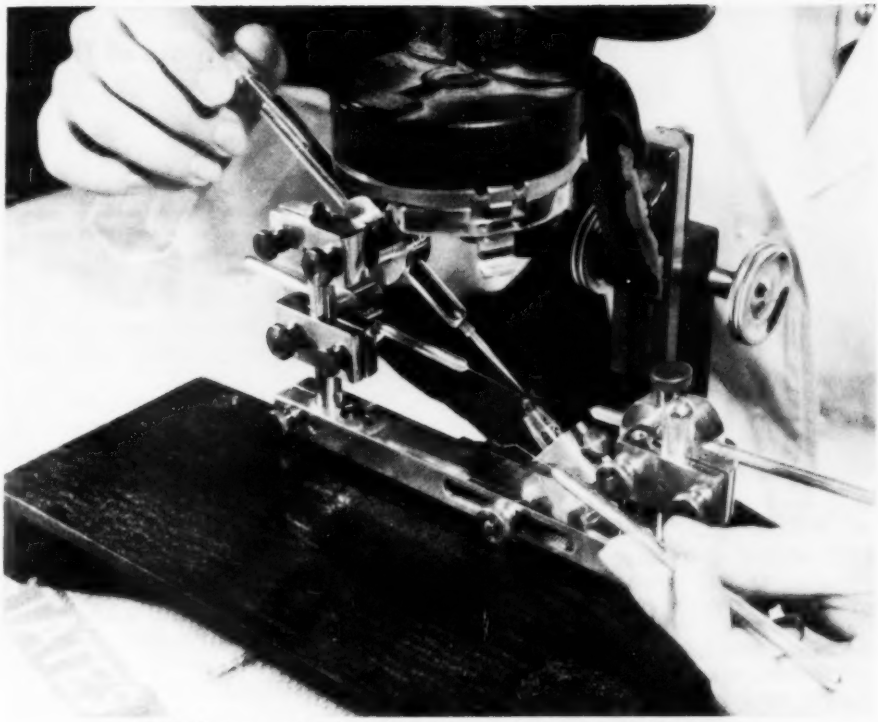
Gunny sacks tacked against the sides of the hives are a further help, more so when the burlap is whitewashed.

BEES MAN'S MOST USEFUL INSECT!...
BUSY BEES
a distance 3 times around
the globe, is required of one
bee to produce one lb. of
honey.
From egg to
bee in 21 days
THE HONEY BEE IS THE GREATEST
POLLENIZER, OVER OTHER INSECTS, BY 82%

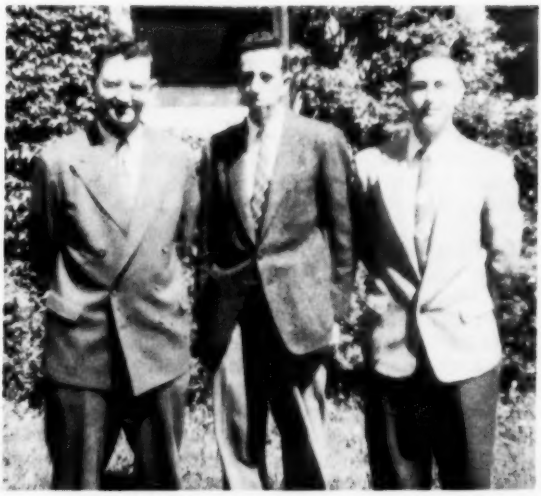
This picture was sent by George Nagel, St. Louis, Missouri. It had been used in a bank window display put on by the local beekeepers' association of which Mr. Nagel was secretary. Such a display is educational and it promotes interest in our beekeeping industry.

This is the interior of the Florida Honey Co-op building at Umatilla shown on the News Reel page of the June 1958 Gleanings. Notice the machine for handling 600 pound drums of honey. Mr. K. C. Williams is manager of the Co-op.

REEL



Apiculturists are continually crossing bees to produce new strains that are resistant to diseases and are good honey producers. Improved instruments for the artificial insemination of honeybees were developed by entomologists of the United States Department of Agriculture. In this picture, the sperm is being injected into the queen by means of a pointed syringe. —USDA Photo.



Left to right: Roger A Morse, Research Editor of Gleanings, also Assistant Professor of Apiculture at Cornell University; Ralph Ghent, graduate of O.A.C. Guelph, Ontario, now working on his Doctorate degree at Cornell University; and Norman E. Gary, assistant in Apiculture, Cornell University, and working on his Doctorate degree.—Photo by Jack Deyell.

Wild Swarms In Trees

One Way to Dispose of Them

by E. F. BEA
Welch, Minn.

A bee tree bulging out with bees and honey. The bees didn't have enough room to store their honey inside the tree so they built combs on the outside.—Photo by E. F. Bea.

WE HAVE a standing offer, in this area, to cut down any bee trees which our friends or neighbors may find in woods. We always give them the honey which is found in these trees and in this way we generally get the chance to inspect these bees for any possible disease. From a financial standpoint, we often donate several hours of time on such a project, and the other party gets the honey, which may be anything from a gallon up to a couple hundred pounds. Our object in doing this is to check for disease and remove this possible source of infection.

We were called in to a home by a contractor who was remodeling a home, some time ago, and asked to remove a swarm of bees in the ceiling of a room in this house. Before this task was completed we removed the lath from this ceiling and found that they had also filled in between the walls in the house, and we removed two wheel barrow loads of honey and about half that much brood and combs. We expected to spend an hour on this project, and when we washed up and prepared to leave, we had spent about five hours time. This colony had lived in this building for several years and was within flight distance of some infected bees which had been destroyed the previous season, therefore we removed every bit of brood and comb, but they appeared to be perfectly free from disease.

Photo shows one of the bee trees which was destroyed by the writer. The hollow space in this tree was not large enough to hold the honey which these bees gathered and they simply built comb on the outside to make room for the surplus. They were very gentle and it was with regret that we applied cyanogas to them. We believe it is good business to destroy these wild colonies and while there is no immediate cash return, one may benefit in the long run by destroying them.

& Z LIBRARY

Doesn't this look good for a patio supper?—Photo courtesy Kellogg Co.

Twice as Good

By Mrs. BENJ. NIELSEN, Aurora, Nebraska

FOOD EATEN outdoors seems to taste twice as good. Whether it is cooked outside or prepared within and just served outside, appetite grows and grows! On the patio or even in the back yard underneath the trees where cooling breezes chase away the day's heat, try these honey-way treats. If you do not care to cook a whole ham or spend hours baking beans you will appreciate these luscious treats. Easy to prepare and good to eat! Grand for a spur of the moment picnic or a quick patio party when friends drop in. Honeyed ham slices, sweet potatoes with wells of golden butter and drizzles of honey or quick honey-baked beans, roasting ears, and a tossed salad with tangy honey dressing. Doesn't that sound scrumptious? And, of course, lots of honey-sweetened iced tea or coffee. Then relax and enjoy the evening!

Honeyed Ham Slices

Two cups ¼-inch bread cubes, ¼ cup honey, ½ cup raisins, ½ cup drained crushed pineapple, ½ cup whole bran cereal, 2 slices of ham, ¾ inch thick and 1 teaspoon whole cloves.

Combine bread cubes, honey, raisins, pineapple, and cereal and mix well. Spread between slices of ham. Stick cloves into fat around edge of ham. Place in shallow pan, bake in slow oven, 300°F., about 1½ hours. Yield: 6 to 9 servings.

Quick Honey Baked Beans

Two 16-ounce cans baked beans, ¼ cup onions, chopped, ¼ cup honey, ¼ cup brown sugar, 2 teaspoons mustard, ½ cup catsup, ½ teaspoon salt, and 4 strips bacon.

Place baked beans in bean pot or casserole. Combine remaining ingredients and add to beans. Top with bacon strips. Bake about 30 minutes, or until bacon is crisp.

Honey Sour Cream Dressing

One and ½ teaspoons seasoned meat tenderizer, ¼ cup tarragon vinegar, ⅛ cup water, ¼ cup honey, ⅔ cup salad oil, and 4 tablespoons sour cream.

Blend ingredients with electric blender or mixer. Or put ingredients in a jar with tight-fitting lid. Shake vigorously. Use over tossed greens.

XUM

Editorials

The Ripening of Honey

IT WOULD SEEM that the majority of people assume that honeybees when they carry the nectar from the flower to the hive, deposit the nectar in the cells of the combs. The following taken from ABC & XYZ of Bee Culture and written by the late O. W. Park, Professor of Apiculture at Iowa State College will clarify this matter.

"It is commonly stated in beekeeping literature that when a bee brings in a load of nectar, she goes to a cell and deposits it there. While this probably does occur at times, the writer has failed to see it in many hundreds of cases which he has observed with great care in the full expectation of seeing it take place. It is indeed most natural to assume that the returned fielder should deposit her load in a cell. During a good honey flow numerous workers depositing nectar in the cells may be observed readily enough, but this is only circumstantial evidence. Careful observation reveals that the bees so engaged are not fielders but are young bees that have not yet begun to work in the field.

"The idea that the fielder deposits her nectar directly in the cell was shown to be incorrect many years ago when Gallup reported; the bees that gather the nectar from flowers are not those that store it in the surplus boxes.

"Gallup's observation has been corroborated by Doolittle in 1898 and by Latham in 1907. This erroneous assumption has continued to be perpetuated in various publications on bees and still is widely accepted among the rank and file of beekeepers.

"Arthur C. Miller in 1907 asserted 'The gathering bee does not give her load to one of the young or nurse bees but puts it directly into the cell.'

"All of my observations on this point are contrary to this impression and in harmony with the observations reported by Gallup, Doolittle, and Latham.

"The behavior of the loaded field bee is worthy of special notice and will be reported approximately as the writer described it some years ago. The loaded nectar gatherer enters the hive with an air of importance. If the source from which she obtained her load is well known to the fielders, she walks about until she meets a house bee to which she gives a part of her load. Occasionally she gives her entire load to a single house bee but usually she distributes it among three or more. It has not been definitely determined why the fielder seldom disposes of her entire load to a single house bee but there are indications that it is because many of the house bees already have a partial load."

Decoy Hives

WE FIND THAT beekeepers in various sections of the country practice setting out decoy hives containing empty combs, with the hope that swarms that have left crowded hives may enter the decoy hives.

The writer was interested in observing decoy hives when visiting Florida recently. This was during an orange honey flow. On a certain day a few bees could be seen circling around the decoy hive. The following day a larger amount of bees would be seen at this same hive and perhaps a day or so later a swarm would be seen entering this hive. The owner of the apiary in question captured at least eight swarms of bees by having decoy hives in readiness for swarms. When such swarms enter hives during a good honey flow they are likely to store a sufficient amount of honey in the combs for winter food and in some instances they store some surplus as well.

The Swarm

THOSE WHO have not read Maurice Maeterlinck's book entitled "The Life of the Bee", especially the chapter entitled "The Swarm" have missed one of the choicest bits of literature.

Maeterlinck has this to say: "The man who never before has beheld a swarm of a populous hive must regard this riotous bewildering spectacle with some apprehension and diffidence. You will be almost afraid to draw near; you will wonder can these be the earnest, the peace-loving, hard-working bees whose movement he has hitherto followed? It was but a few moments before he had seen them troop in from all parts of the country as preoccupied, seemingly, as little housewives might be with no thoughts beyond household cares. Today this is all changed. But the veritable signal has not yet been given. In the hive there is indescribable confusion; and a disorder whose meaning escapes us."

Maeterlinck goes on in his inimitable poetic language to describe the issuance of a swarm and the bees circling around in the air.

Beekeepers who have handled bees all of their lives never cease to be entranced with the behavior of a swarm of bees.

It seems probable that this may be a swarming season, due to the fact that bees in most sections of the country are in good condition because of an ample supply of nectar and pollen collected earlier in the season. At present, strong colonies have a high percentage of drones which may or may not be an indication of future swarming. At least drones are needed to mate with young virgin queens that are left in parent colonies.

It is hoped that beekeepers may control swarming to a certain extent by furnishing comb space or supers in plenty of time.

If swarms do issue and are found on trees or bushes, they should by all means be put into hives instead of being permitted to go to the woods to find homes in hollow trees.

We Must Solve the Marketing Problem

THERE MAY be a little carry-over of honey from the 1957 crop, and since present conditions indicate a larger than usual crop for 1958, something should be done about the marketing problem.

The following is a quotation from a letter by C. D. Floyd, Chairman of The American Beekeeping Federation, Inc., Marketing Committee, to state association presidents and secretaries:

"With the present depressed honey market, a possible carry-over of part of the 1957 crop facing us, relatively good general prospects for a crop this year, the present attitude of the United States Department of Agriculture toward our problem and steadily declining average per capita consumption of honey in this country, it is more than apparent that we must take the bull by the horns and do more marketing work to help correct our present market conditions."

It would seem that the average beekeeper can do more than he apparently is doing at present to promote the sale of honey locally. It is surprising how much honey can be sold if only the beekeeper will let people know that he has honey for sale.

A few years ago a beekeeper was complaining about not being able to dispose of a ton of honey he had in his basement. When we inquired if he had advertised the honey for sale he said he hadn't. How in the world could he expect to sell the honey if he didn't let people know he had honey to sell?

To sell we must tell.

FROM Foreign LANDS

Translated and Edited by ERIKA BARTH, San Antonio, Texas

Bees' Dances:

IN ORDER to photograph the actual dance figures of bees, they were marked at the feeding station with drops of fluorescent paint. These gleaming dots are noticeable under ultraviolet light, and the movements of the bees were photographed The interesting results showed that these dances, which until this experiment had never been photographed, actually do occur precisely as previously reported. Useful differences in the dance forms were detected, connections with the distance and quality of the honey source etc. Experiments are still in progress.

Hoffmann, Koehler & Wittekindt, Naturwiss. 1956, 405.

Dances of Bees in Connection with Close and Distant Honey Sources:

A SUMMARY of the known experiments up to date shows that bees used to gathering nectar short distances from the colony, prefer to dance close to the hive entrance. "Distance workers", however, choose to dance a little aside from it.

Boch. Z. vgl. Physiol. 1956, 136.

Queenly Substance:

DEAD QUEENS, after having been preserved for three years, still have a drawing power over bees and will check development of the ovaries in workers. "The queenly hormone" is heat resistant and dissolves in chloroform, acetone, and alcohol. It is supposed to be more concentrated on the head than on the rest of the body and is only effective upon immediate contact.

Body of the queen and odor alone do not discourage ovary development. There is a marked difference in drawing power on bees, however. It is assumed that the "queenly substance" is a wax from the epicuticula.

Pain, Insectes Sociaux 1956, 199

New Social Regulations in Building Activity by Bees:

BEES WILL change their comb structures if obstacles, such as small pieces of wood, are placed between the normal comb structure. Since this can only be done with the complete cooperation of all bees in the hive, a way of communication, perhaps by touch, seems to exist.

Darcheu, C.r. Acad. Sci. (Paris), 1955, 1081.

Dividing the Work-load in a Swarm:

IN A SWARM one will find an almost equal division of the colony in regard to the amount and age groups of bees. Only the very young bees are absent. A swarm cluster is a well-organized structure. The loose inside consists of the up to 18-day-old "hive bees", which are surrounded by the older "enveloping bees". The latter bees are constantly changing places. The newly situated swarm starts to build immediately. Work is done according to age. The oldest bees gather nectar, the youngest begin to build and rear the young. This division of work is also to be found in the wintering colony, until the first young bees appear, which brings life slowly back to normal again.

Meyer, Naturwiss., 1955, 350.

Live and Learn

by Propolis Pete

EVERY once in a while someone will come up with the complaint that bees don't do what the books say they should do. I do it myself, because sometimes it seems as though those darned bugs are just trying to be contrary. Maybe so, but if you get right down to the bottom of it, you will probably find that what the books mean is that the bees will do such and such, providing this or that is the case. Your bee books are generally written by people who have gone through experiences, and what they tell you generally is the result of their own observations, plus what they have learned from others. That is where the rub comes.

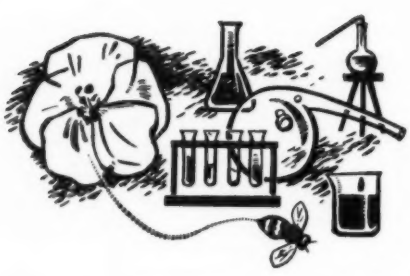
When you come right down to it, how much of what you know about bees is the result of your own experience? How much of it is from what you have read, or been told? And how much of it is from your own experience, but faulty observation and interpretation of what you have seen? There, friends, is the answer to the question of why the bees don't read your books.

Here's a for instance of what started me off on this line. Yesterday May 23 was the first nice day that we have had in a long time. So I got in my second inspection of the season. Some were doing fine, some needed one thing or another. The first colony in the line was so well fixed at the first "clean up" inspection that I not only reversed the bodies, but gave them two shallow supers to boot. At yesterday's inspection, they were up in those supers and they were beginning to gain weight. So, even though there was very little chance of getting surplus now, they got another brace of shallow supers, over the brood nest, but below the first two.

The books say that congestion is a prime source of swarming. So do I, even though I have seen bees swarm from a stack of bodies five high, and practically empty. There was no apparent congestion there, but wait a minute. Those extra bodies were put on all right, but the bees had got that congested feeling BEFORE they were put on. Having one-track minds, they had decided that they were going to swarm, and by golly they would swarm if you put them in the high school auditorium. Just remember that when the books say to put on supers in plenty of time, it means before they are needed, but not so soon that the bees rattle around in them.

Another for instance. The books say that scattered brood means a poor or failing queen, and should be replaced with a young and vigorous one. Well, that same first colony had badly scattered brood when I looked yesterday. With much regret, I marked a blue X on the top with carpenter's chalk, for a replacement. But the second colony also had scattered brood, and I couldn't quite figure out how come. When the third and fourth colonies also showed the same thing, I began to wonder what was going on. But then I began to notice that the pattern seemed to be the same. There would be a couple of square inches of solid brood, and then a patch as big as your hand with eggs, baby larvae, half-grown brood and sealed cells all at the same time. Finally it dawned on me what was going on. It was the weather again. Mean, cold, wet, and miserable, the bees would use up honey stores, clean out the cells and the queen would start to lay. Came a break and some workers could get out for an hour or two. Coming back, they would unload in any old cell, just to get rid of it and hurry back for more. The queen would poke her nose into a cell, find that it wasn't ready for her, and go on to the next cell. When she found a clean one, she would lay. That accounted for the brood in all stages found in a radius of two inches. The solid patches showed where she was faster than the field bees, and the eggs in the alternate cells with developing brood showed that she was wise to what was going on and back tracking when she got the chance. Anyway, that is my interpretation.

If I were to replace every queen by judging her work this spring, I would have to requeen every colony. As it is, I am requeening only two of the 25 I have here at the home yard. I figure one of them to be no good. She is skinny and wobbles as she walks. The other colony has a big red X on the side. Meaning—"too hot to handle". It will be fun finding that queen.



Research Review

By DR. ROGER A. MORSE

Research Editor of Gleanings and Ass't. Prof. of Apiculture
Cornell Univ., Ithaca, N. Y.

Nurse Bees Recognize the Sex of Larvae:

PROF. HAYDAK of Minnesota has recently published an interesting article on whether or not nurse honeybees are able to recognize the difference between worker and drone larvae. As he points out, it is known that older worker larvae do not have any pollen in their food but older drone larvae have large quantities of pollen in their food. Another author has suggested that the cell size is the factor in determining what food the larvae in the cell receive.

To answer the question Haydak installed packages on drawn drone comb and drone foundation. Since the queen in the package will lay worker eggs it was necessary for her to deposit them in drone cells. At first the nurse bees were confused a little and added some pollen to the food of older worker larvae but soon they fed worker larvae in drone cells food without pollen. Drone larvae in the same hive were fed as drone larvae are normally fed. Worker larvae in drone cells were capped as worker larvae and not as drone larvae.

When the queens were killed and laying workers appeared the above was not true. Most interesting at this point was that drone larvae in queen cells were fed royal jelly.

Several researchers are now interested in the mechanisms which hold the honeybee colony together. The question of instinct and intelligence (or at least a sign of even limited intelligence) is being discussed at length. As we learn more about social behavior we might very well change our management practices drastically. A science fiction author might very well write on how we will keep bees in 1984!

Haydak, Mykola H.
Do the nurse honeybees recognize the sex of the larvae? Science 127: 1113. 1958.

Drone Brood and Swarming:

MUCH DATA has been presented on the brood rearing cycle of the honeybee as it concerns worker bees. Little has been done concerning drone brood. It has been suggested by some that there may be a relationship between laying of drone eggs and swarming.

Work recently published from Scotland indicates this is not so and that there is no relationship between the amount of drone brood in the colony and the preparation of queen cells. Furthermore colonies which do not make swarming preparations may still rear large quantities of drone brood. Graphs presented by the author indicate that the period when there was considerable drone brood present was about half the duration of the period for total brood.

Allen, M. Delia
Drone Brood in honeybee colonies. Journal of Economic Entomology 51: 46-8. 1958.

A Note on Subsocial Bees:

SEVERAL investigators are very much interested in the social habits of bees other than the honeybee. It is reasonable to think that out of these studies might come some information about what makes a colony of honeybees social and how the social habit came into being.

A bee native to Brazil and normally termed subsocial exhibits a rather interesting behavior. The bee, **Augochloropsis sparsilis**, has only males and females with no workers as such. These bees share a common nest and there is division of labor. Some lay eggs, others forage and individuals join efforts to provision a cell. The authors state a few individuals never mate and that these work harder than their mated sisters.

Michener, Charles D. and Rudolf B. Lange.
Distinctive type of primitive social behavior among bees. Science 127: 1046-7. 1948.

Let's Talk About Honey Plants

By HARVEY B. LOVELL
University of Louisville,
Louisville, Ky.

Ground Ivy (Glecoma hederacea)

Ground Ivy. Jack Deyell recently sent me a blue flowered plant with the comment, "Bumblebees and honeybees were working on the blossoms." I too observed my bees working on ground ivy this spring in my yard along with some bumblebees. This minty plant also known as Gill-over-the-ground (**Glecoma hederacea**) is a rather bad weed at times in flower beds, lawns, gardens, and waste places. Years ago in some of the early editions of the ABC, A. I. Root devoted considerable space to ground ivy and thought that some years his bees made considerable strong dark honey from this source.

George H. Latham. In the May issue of GLEANINGS Mr. Latham challenges the statement made by a writer in the November 1957 NATIONAL GEOGRAPHIC that bees sting people while they are collecting nectar from flowers, more specifically the flowers of the smoke tree in California. That is a hard statement to disprove absolutely, but it is against the experience of many observers. For example, I have been collecting insects of all kinds and bees in particular in many parts of the United States and have never been stung in the process, except in a few cases while I was actually handling the bee. I have known wasps to sting when they happened to have a nest in a flowering shrub, but they were protecting their nest. I have been stung by sweat bees (**Halictus**), small bees which crawled up my sleeves and got squeezed against my body. In many cases I have attempted to knock a bee into a cyanide jar and instead knocked her against my hand without receiving a single sting. I have always told people that they have nothing to fear from bees while they were collecting honey and pollen from flowers. Anyone having experiences with bees while collecting on flowers please write me.

Abelia. Mr. Latham also tells of watching honeybees "steal" nectar through holes bitten in the tube of abelia (**Abelia grandiflora**). I was pleased that he did not assume that the honeybees had bitten the holes, as some less accurate observers have done. I have twice observed carpenter bees (large black bees resembling bumblebees) bite such holes and honeybees using them. The tube of abelia is too long for the honeybees' tongues but they sometimes collect pollen from the mouth of the flowers.

(Continued on page 429)

SAFE and SIMPLE Queen Introduction

by DAVID BONE
Kent, England

SOME TIME before the year 1881, Samuel Simmins of Sussex, England, devised an easy way of introducing queens directly by what he called his Fasting Method. For the introduction of queens that are bought from breeders, and come through the post, I like this old method very much; and since it is hardly to be found in the books nowadays, I here set it down for the benefit of beginners.

Simmins himself said, "The three things of importance to be observed are as follows:—(1) Keep the queen quite alone for not less than 30 minutes; (2) she is to be without food meanwhile; (3) and to be allowed to run down from the top of the frames after darkness has set in, by lamplight.

It is also important that the same receptacle be not used twice over for holding the queen during the 30 minutes' probation without first being scalded or otherwise cleansed. Of course, a metal cage is easily made clean, though there is no objection to the cheap "safety" match boxes so commonly in use, as there is nothing obnoxious about this kind.

My own practice is to carry the queens in the vest pockets, in small tubular cages made of fine perforated zinc or tin, one end permanently closed, while the other is pressed into a piece of foundation after the queen is in. When ready, remove the foundation and let her run into the hive. **Caution:** Make no examination after inserting a queen until 48 hours have expired.

"The above meets all requirements, whether the colony has been long, or only a short time queenless; if it has brood or not, or queen cells in any stage of development. It is also applicable to any season of the year."

The principles underlying this method seem to be as follows. (1) The attendant workers who came with the queen, and who might provoke the hostility of the queenless bees, are removed. (2) The queen, having been deprived of food as long as is safe, enters the new hive without fear, and presumably demands to be fed: for it is well known that hunger makes the most timid creatures bold. The queenless bees, whose instinct it is to feed a hungry queen without delay, are so concerned over her needy plight that they do not bother to inquire into her credentials. (3) At nightfall the hive is peaceful and quiet, and robbers are not to be feared. So the bees may be assured that the strange queen does not come at the head of a hostile invasion.

My Modification

If the colony to be re-queened is not already queenless, the old queen should be removed during the day, and the new queen given the same night. If

you have free choice, the latter part of the afternoon, or the early evening, is a good time to take away the condemned queen. This is done on the day of the arrival of the new queen, who will be mailed to you in a Benton postal and introducing cage. Till it is required, this should be kept in a quiet and shaded place, neither too hot nor too cold. When darkness is falling, take the cage into a closed room, and very gently and without shaking it, pry the wire mesh screen off the front with a screw-driver. It is generally sufficient to loosen the wire cloth at one end and bend it well back. The workers will wander quietly out on to your hand and the outside of the cage. They very rarely fly. The queen is often the last to leave. If, after you have waited a few minutes, she shows herself reluctant to come out at all, insert your finger, and gently corner her so that she cannot retreat into the candy compartment, and crowd her out with your finger tip. To do this you need hardly touch her at all. When she is on the outside of the cage, or on your hand, and apart from her attendants, gently place over her a half-opened match-box, and close it very gradually, taking care not to trap her legs. If you patiently watch your opportunity for a minute or two after the cage is opened, there will be no need to pick the queen up with the fingers at all.

In case she should fall or take wing, which very rarely happens if you are gentle, this maneuver should be carried out near a closed window and over a table-top or some similar surface. I generally do this part of the job in the early twilight, when there is still enough daylight to see. In that case, you can let the queen and her attendants run directly from the cage on to the window pane, where they will stay as long as you wish. Then it is easy to place the match-box over the queen while she is on the glass. In an out apiary I do the job sitting in my car with the windows closed. When you have got the queen safe, you must put your foot on her attendants. This is sad, but it is also something of a safeguard against the possible introduction of any disease carried by adult bees.

I always use a match-box for keeping the queen in solitary confinement; but I give it a good airing before use. Match-boxes have quite a strong and unpleasant smell when they have lately contained matches. I open them fully, and leave them out in the open air for several hours before use, thereafter keeping the same boxes in use for two or three years, or as long as they will last.

As soon as you have got the queen in the match-box, take note of the time. She should not, in my opinion, be starved for more than half an hour, lest she should receive any harm thereby. I myself keep her confined for 20 minutes only, in preference to Simmins's "not less than 30"; and, although I have kept no records, I cannot remember ever to have had a failure. Furthermore, I have often used the same box again for another queen without any ill effects. However, keeping to Simmins's rules, be ready to put the queen into the queenless colony as soon as 30 minutes have elapsed. In the meanwhile, keep her warm if the night air is cool, avoid shaking the box, and take great care not to mistake it for a box of matches, which is easily done. In cold weather she may be kept warm in an inner pocket when you take her down to the apiary.

A few minutes before she is due to enter her new home, take her along to the hive, and gently remove the outer cover. Open the feed-hole, or, preferably, leave it uncovered after you have inspected the colony in the daytime. If the bees are crowding round it, you may drive them down with a gentle puff of smoke; but this is rarely necessary. Without shaking the match-box, place it mouth downwards over the feed-hole, and gently push it about half way open, so that the queen may come out and run down into the hive. There is no need to see her come out: the match-box can be left in place. I do the job in the dusk, rather than by lamplight as he did. The queen should enter her new home after no more than 30 minutes confinement. A few minutes later you will often hear an uproar of happy humming in the hive. My own practice is not to open the hive for 10 days afterwards.

Many eminent bee men, of by-gone days and of the present time, have testified to the value of Simmins's fasting method of direct queen introduc-

(Continued on page 445)

Short course students listening to Geo. Rea lecture at a morning session.

Pennsylvania Beekeeping SHORT COURSE

By EDWIN J. ANDERSON, University Park, Pa.

The Beekeeping Short Course at **Penn. State University,** Aug. 18-22 is unique in that each afternoon is given to demonstrations in the honey house and the apiaries. The demonstrations have to do with extracted and comb honey production, queen rearing, extracting honey, clipping queens, artificial insemination of queens, transferring bees from box hives and others. The lectures are given each morning at that time of day when the bees are ill tempered and difficult to handle. Slides and movies are shown during the evening sessions except Thursday when a banquet is held.

Everybody is welcome. The cost of registration to Pennsylvania beekeepers is $7.25 and to others $12.25. To register or get information and a program write to D. R. McClay, Director of Short Courses, Armsby Hall, University Park (State College) Penna.

A demonstration on management in the afternoon of one of the short course sessions.

Regarding April 1958 *Front Cover Picture*

By R. C. DANIEL
Picayune, Miss.

IT WAS WITH considerable amazement that I noted the cover of the April issue of Gleanings in Bee Culture. You say, I know, that the beautiful stewardess does credit to the package but I also know that the package of queen bees does credit to the stewardess for it was I who packed that particular package of bees.

Your readers might be interested in further information concerning the package. It is possible this package did a great deal more good than an ordinary package, for you see the queens were destined as breeding stock. Actually, there were 25 queens in the package plus a few extra for good measure. It was not a postal shipment but TWA Air Freight. The cages were a special export type. These breeding queens were ordered and destined for Palestine a few years back as part of their agriculture program. Their value was $250 plus transportation.

We were the first to use airmail for all domestic and Canadian shipments of queens and to any place in the world as soon as the airways would carry them. We started back when airmail was very high and designed a special light-weight cage for all airmail shipments which we still use today.—R. C. Daniels.

Note: We assumed the package contained 50 queens but apparently the cages used were larger than the three-hole cages.

Do Bees Have A Sixth Sense

O. N. THOMPSON
Columbia, S. C.

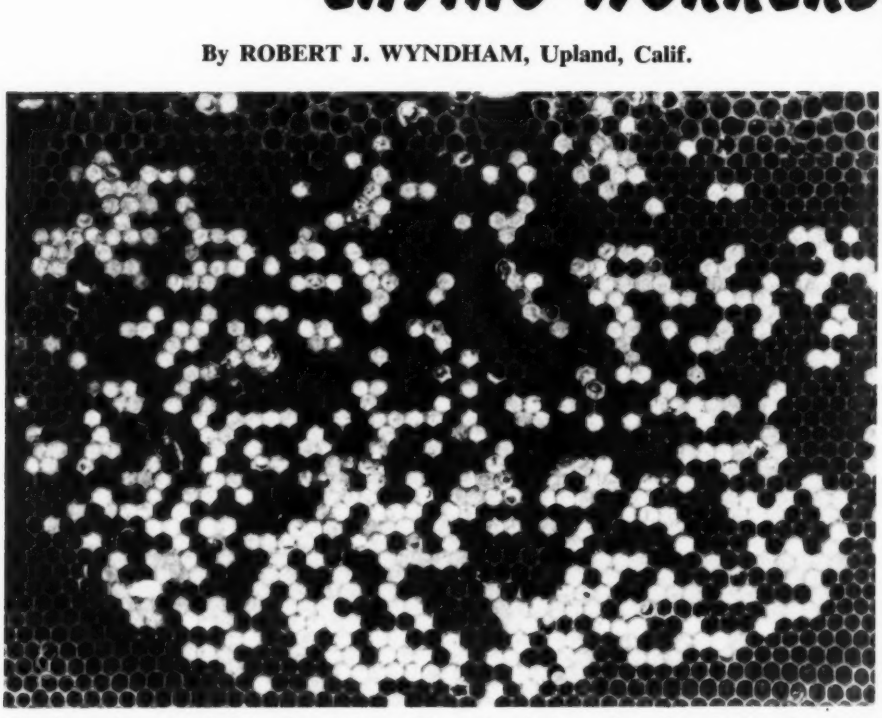
WHILE SITTING on a deer stand in the woods, as we do in the South, I watched the wild bees at work, visiting water holes and the different flowers. As I have watched them make hundreds of turns to visit many flowers for nectar or pollen, I have wondered about their sense of direction. I have decided that they have something that I haven't read or heard about. I caught a few of the bees and tried in different ways to confuse them before allowing them to take off for home. After being disturbed I doubted that they could find the right direction.

I do not believe the bees rely on their known senses to return directly home. In watching the bees make circles to get the direction, I believe they have help from a **compass**, and since it hasn't been discovered, it has to be invisible. If this is possible, then they have an invisible compass that they set when leaving home. When they are ready to return they circle until the compass is in the right direction. This allows the bees to adjust their loads and fly through rain or fog as well as a on a bright sunny day. I often sit by a hive and see the bees going out and coming in through blinding fog or rain, not missing their landing spot by one inch, so I am led to believe there is a sixth sense in nature that belongs to the honeybees.

What To Do About

LAYING WORKERS

By ROBERT J. WYNDHAM, Upland, Calif.



This picture shows a typical brood comb from a hive with a laying worker. Note the irregular pattern in which the drone brood has been layed. Also note that shs has layed the infertile drone eggs in the smaller worker cells rather than in the larger drone cells.

SOONER OR LATER every beekeeper has a colony of drone-layers on his unhappy hands. The queen has died from old age or maybe she was killed when the frames were manipulated. The bees raised a new queen, but she met with disaster on her mating flight and she never returned. The colony felt hopelessly queenless and a few workers were fed protein-rich food. Their ovaries became active, but not being able to mate, they could lay unfertilized (drone) eggs only.

Or possibly when the old queen died it was late in the season and no drones were around for mating. In that case the colony has a drone-laying queen.

When I find a drone-laying colony I feel disgusted. Not only that sex deviates—for that is what they are—are repulsive, but it also means quite a little extra work. Therefore it is good to think before you start doctoring. When the colony is very weak, I feel it does not pay to fool around with it. In that case it is easier and saves labor to shake the bees off and let them be adopted by other colonies. I take the equipment home, till the time is ripe for an increase. When it is late in the season and the drone-laying colony is fairly strong, I unite it with a strong one, using the newspaper method.

But when the unpleasant discovery is made before the honey season is over and the delinquents are pretty strong in numbers, then it is worth while to do some doctoring. Before anything can be done, a more or less normal proportion between young and old bees

should be restored. For as of now the colony consists of old workers, drones and a few drone-laying workers. The absence of nurse bees is the reason that drone-laying colonies too often will not raise a queen when given a frame of brood.

Therefore I take a frame of emerging brood from a strong colony, place it in the drone-laying colony from which I have taken away all combs containing brood. These combs with drone brood should be given to strong colonies (one or two each) to be cleaned up. The cells occupied by brood should be scored first with a hive tool or knife.

After a few days the drone-laying colony should have a good number of nurse bees. Then I introduce a young queen or queen cell in the usual manner. Or if neither one is available I take a frame containing eggs from a colony headed by one of my best queens and give it to the drone layers. Within a month the young queen should be in business. To assure the best results, I put the drone-laying colony on the stand of a strong colony and vice versa. It may well be that the bees of the strong colony which then join the doctored colony, don't tolerate drone-laying workers and kill them off. So far this method has never failed to work.

BOREN TO BECOME STATE APIARIST OF KANSAS, JULY 1

ROGER B. BOREN will become State Apiarist of Kansas, effective July 1, 1958. He will replace Dr. R. L. Parker, who has been State Apiarist since 1912 and is retiring June 30. Mr. Boren came to Kansas in September, 1957, and has been assisting Dr. Parker since that time. The State Apiarist is appointed by the Kansas Entomological Commission to administer the State laws pertaining to apiary inspection and regulation of bee diseases.

Mr. Boren graduated with the B.S. degree in 1953 from Mississippi State College. In the fall of 1954, he returned to Graduate School at Mississippi State for one semester, at which time he received a Commission in the Medical Service Corps, U.S. Army as a Medical Entomologist and went on active duty at Fort Sam Houston, Texas. There he was Medical Entomology Instructor in the Preventive Medicine Technician Course at the Army Medical Service School.

He was separated from the Army in February, 1956, and worked for a pest exterminating company until September, after which he returned to Mississippi State and graduated with the M.S. degree in Entomology in August, 1957.

His thesis was concerned with various approaches to the control of Nosema disease in honeybees including the effect of **Nosema apis** on package bee production, and the control of the disease in the yards and during shipment.

A Good Idea

PAUL S. GRIERSON
Maplewood, N. J.

WHILE ATTENDING the meeting of the Eastern Apicultural Society in August at the Pennsylvania State University I noticed that all of the exhibits of box honey in 4¼-inch boxes had one fault in common. The cellophane wrapping was not tautly attached.

Two pieces of very thin stiff cardboard cut exactly 4¼ inches by 1⅞ inches are placed on the top and bottom of each box before wrapping. This makes it readily possible to pull all edges of the wrapping firmly in place and avoids the probable injury to the comb at the cut-a-way edges by those handling the boxes. Beautiful comb honey needs a neat wrap as a final touch.

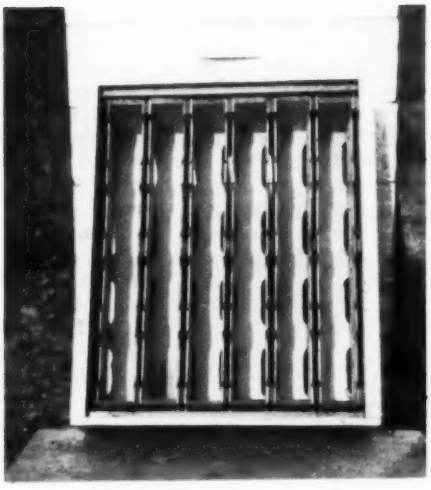


Fig. 1

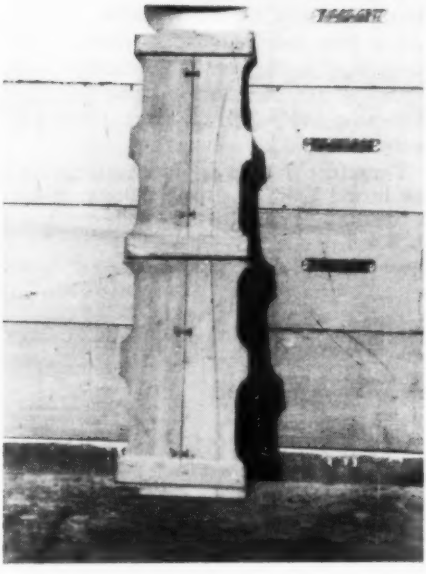


Fig. 2

SIMPLE ALTERATION OF A COMB HONEY SUPER MAKES CLEAN SECTIONS

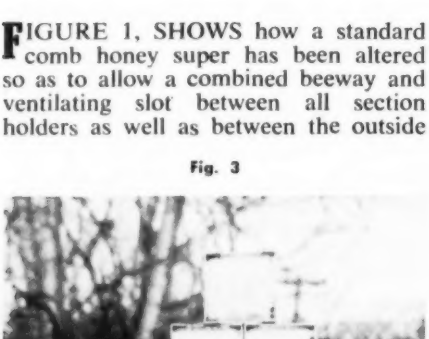
by S. J. OTIS
Madison, Wis.

FIGURE 1, SHOWS how a standard comb honey super has been altered so as to allow a combined beeway and ventilating slot between all section holders as well as between the outside holders and the super sides. Bees can use these slots to move to supers above without crowding the sections and leaving travel stains.

As seen in Figure 1, only six section holders are used but an additional four separators are required. Also, six of the twelve separators have three ¼ x ¾ x 4½-inch cleats fastened to them as shown in Figure 2. These cleats are available from bee supply houses and are fastened to the separators with small, ½-inch long nails which are clinched to prevent their pulling out when the super is taken apart to remove the honey. Side springs and end wedges remain the same as in the standard super.

Figure 3 shows a group of typical sections removed from supers of this type which I use exclusively in my yards.

Fig. 3



LET'S TALK ABOUT HONEY PLANTS

(Continued from page 421)

North Carolina. Gerald C. Sitton, President of the Transylvania Beekeepers' Association, writes me as follows: "I have just finished reading your column in the March issue of GLEANINGS. I have never seen one honeybee gathering nectar from mountain laurel or rhododendron and there are thousands of acres around me. I wonder about reports of honey from laurel. In what section of the country do bees get this nectar?" It is lucky for beekeeping that bees do not usually visit mountain laurel. Joe Morris of Raccoon, Kentucky, wrote that he gets some honey from mountain laurel but that it has a bitter flavor and a strong odor.

South Carolina. W. H. Purser reported (GLEANINGS, Oct. 1954) that mountan laurel is thought to be reponsible for the bitter flavored honey that comes just before sourwood and that beekeepers do not move into the mountains until after the blooms have gone by.

Georgia. A. V. Dowling of Valdosta wrote that calicoweed or sheepkill (the name he gives the local variety) yields best in dry seasons and may produce as much as 10 pounds of honey which is thin and has a tendency to ferment. When I visited Mr. Dowling in southern Georgia several years ago, he showed me this plant in bloom. It was the small flowered laurel (**Kalmia angustifolia**). There are also reports of poison laurel honey from Washington State.

Soya Beans. H. E. Dale, from Herrin, Illinois, writes that he has twice made a surplus from soya beans since 1950 in southern Illinois and in west Tennessee. Altogether he has made two to five tons of this honey. He describes the honey as very heavy-bodied, light amber in color and not too bad a flavor. With the large acreage of soya beans in this country, it would be a great boon to the beekeepers if varieties could be developed which would produce a surplus of honey regularly.

NO TIME TO THINK

H. H. ROOT, Medina, Ohio

AT A SUMMER Field Meeting in New York state, a beekeeper, during the noon hour, brought me a bottle of honey and asked me if I could tell where it came from. Holding it to the light, I saw that it was cloudy or smoky. I tasted it and found it had the unmistakable, peculiar flavor reminding me of honey dew. I said I thought it **was** honey dew.

Not wanting to pose as an authority, I called Dr. E. F. Phillips, explaining that the gentleman wanted to know what kind of honey he had, and adding that I thought it was honey dew. Dr. Phillips looked at it, tasted it, and instantly said, "I don't think it is honey dew".

Taken entirely by surprise, I answered, "You don't,—what is it then?"

Dr. Phillips said, "It **is** honey dew".

But you just now said you didn't think it **was** honey dew", I insisted.

"I said I did not **think** it was honey dew because I **knew** it was honey dew".

After the many years I had known him, I should have learned that Dr. Phillips never said he thought, when he knew. When in doubt, he would qualify his answer like any other sensible person, but when he was not in doubt, he never replied, "I think", or used the words "probably" or "perhaps".

TWO LEGGED THIEVES

EVERETT H. CLARK, New Hartford, N. Y.

DURING THE PAST 30 years I have kept bees in yards away from home scattered over quite an area. In selecting sites I try to find a location that is in full view from the road. I also like to have it in sight of a house but far enough away so the bees will not bother the neighbors. These conditions discourage thieves.

In addition to this, the location should be protected from prevailing winds, have good air drainage, and preferably face south or east. The ground should be well drained so that it is accessible the year round.

The only hives I have had broken into were located where they could not be seen from a road or house.

A Talk to Beekeepers

by M. J. DEYELL

A large swarm from one of my hives that covered the bottom portion of a tree.—Photo by Deyell.

July an Important Month

A LARGE PORTION of surplus honey stored in the north, especially the northern tier of states and Canada is secured during July. At this time apiaries that have been properly managed should be up to maximum strength ready to take advantage of the major honey flow. In most parts of northern Ohio bees reached maximum strength by June 1st, or even earlier, that is, colonies that had an abundance of stores early in the spring.

Bees stored a considerable amount of honey from dandelion, fruit bloom, and golden rocket during late May. On May 21st I extracted around 200 pounds of golden rocket honey. It is heavy bodied and quite light in color. It grades almost white and if mixed with clover honey, would not affect the color. However, the flavor has a rather pronounced tang which is not objectionable to most people. This plant helps to bridge over the dearth of nectar that sometimes occurs between fruit bloom and clover in this area.

A Few Words about Supering

It would appear that supering in the proper manner is one of the most important parts of apiary management and if it is neglected much of the available honey crop is lost.

In some sections of the south, especially in the log gum area where swarms are put into hollow trees, cut to the proper length, an old method of supering was to invert a crock or some metal container over a few holes drilled in some boards covering the upper portion of the log gum. During a good honey flow the bees would fill the crocks with comb honey.

Securing Honey in Quart Jars

This is entirely possible, especially during a rapid honey flow. A dozen quart jars with caps removed, are fitted into holes of the right diameter, bored through an inner cover which is placed over the brood chamber. An empty super is placed on the inner cover and under the outer cover to protect the jars. When the jars are filled with honey they are removed and replaced with more empty jars.

While this method of comb honey production may not be practical on a large scale, it is perfectly possible on a small scale. The beekeeper removes the comb honey from the quart jars as needed.

Piling Supers at Each Out Apiary

For some years I have operated three or four apiaries some little distance from Medina. At first I kept all of my supers in a building during the winter months. When spring opened up and bees began to work early blossoms, the colonies would naturally increase in strength and if supers were

not put on reasonably early, swarms would issue. During some seasons it was impossible, due to rainy weather, to drive from hard roads into these apiaries. I have been obliged to carry supers from the road, through muddy lanes, into the apiaries. This is really hard work. During late years I have piled enough supers at each out apiary in the fall for early spring supering. It is necessary to have a suitable foundation for the supers consisting of two by fours or something similar, laid on level ground. Metal outer covers are then placed on the two by fours with the tops of the covers facing up, then the supers are piled on the covers until they are four or five high. Large bricks or stones are placed on top of outer covers which protect the supers. It is sometimes advisable to tie the supers down with a stout cord so that the wind will not blow them over. The supers should be mouse proof.

It is certainly convenient to pile these supers on hives, as needed in the spring. In this area we usually have a dandelion and fruit bloom honey flow followed by a golden rocket flow, in which case it is necessary to put one or two shallow supers on each colony. We do not put on queen excluders until the major honey flow gets under way. If the queen has occupied some of the combs in the supers she should be smoked down into the brood chamber. A good way to do this is to remove one comb temporarily, then pry the remaining combs apart and smoke down between the combs, to drive the queen down if she happens to be in the supers. The presence of brood in the supers will invite the bees up into the supers as soon as the major honey flow begins.

Supering Early — A Swarm Control Measure

Putting on supers early, before colonies become congested, does control swarming. The bees then have ample comb space for storing incoming nectar and they become accustomed to occupying the supers before the major flow is on.

When supers containing frames with full sheets of foundation are put on during a dearth of nectar, bees are likely to chew holes in the comb foundaton. Be sure to put such supers on during a honey flow.

Top Supering

When the honey flow gets under way, supering on top, rather than underneath the partly filled supers is an advantage in that it saves the labor of lifting off the partly filled supers, then lifting them on again after the new super is put at the bottom of the pile, over the queen excluder. This old, or orthodox method of supering was followed for years. If honey is coming in rapidly bees will store it in a super placed on top of the pile. If you are skeptical about this, you may have to try it out to be convinced that it will work.

When honey is coming in rapidly bees require plenty of comb space for storing thin nectar before the excess moisture is driven off. A daily gain of 15 or 20 pounds is not uncommon with very populous colonies. Let us assume that a colony brings in 15 pounds of honey in a day. That amount of honey would fill three standard combs. However, the nectar which is approximately two-thirds water or moisture, would fill nine combs just after it is carried into the hive. The bees drive off the excess moisture by fanning their wings.

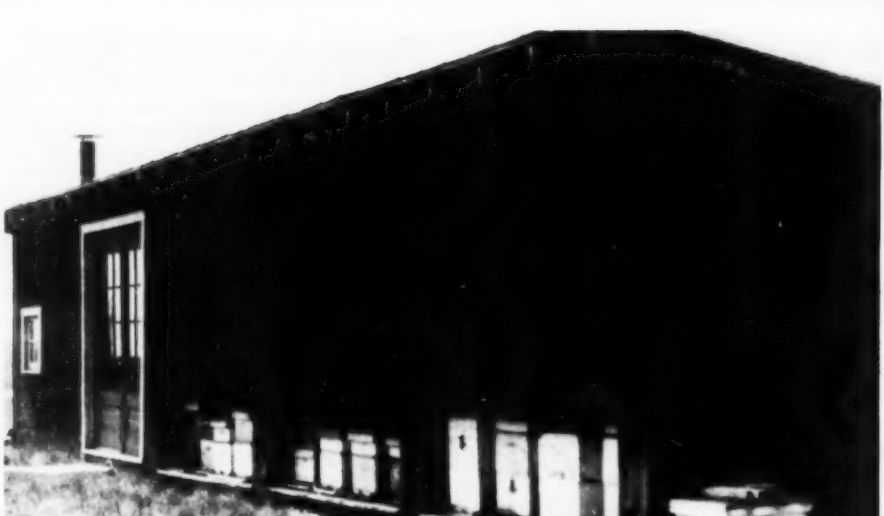
It is an advantage to have an adequate amount of supers, or comb space on strong colonies of bees during the major honey flow. It is safe to assume that many tons, perhaps carloads, of honey are lost each season throughout the country, due to the lack of comb space or supers to hold the crop.

Removing Surplus Honey

Most beekeepers, especially beginners, are anxious to remove surplus honey in order to taste it. Some beekeepers make the mistake of removing partially capped over combs from hives in their eagerness to extract some early gathered honey. Such honey may contain a high percentage of moisture and is likely to ferment after being extracted and put into containers. Combs removed from hives should be at least three-quarters capped over and section comb honey should not be taken off until all of the sections are capped over. However, at the close of a flow, comb honey producers are likely to have a few partially capped sections.

Be Sure the Extracting Room is Bee Tight

The work of extracting honey is usually done at the close of the honey



John Rick, Berks County, Pa., near West Reading puts his bees right under the honey house, where they are handy to his processing plant.—Photo by Paul Hadley.

flow when nectar is not plentiful at which time bees are likely to rob on the slightest provocation. This makes it imperative that the room or building in which honey is extracted should be made absolutely bee tight. If bees gain an entrance, they are likely to make considerable trouble, even after the small hole or opening through which they gain entrance to the building is plugged shut.

Beekeepers should be especially careful when manipulating hives after the major honey flow, to close up the hives as soon as possible and to avoid leaving combs of honey standing against the hives for any length of time, for this invites robbing.

Equipment for Extracting Honey

A small two or three frame extractor is large enough for a beekeeper with from one to 25 colonies. A small motor attachment saves considerable labor of turning the crank by hand.

Combs of approximately the same weight should be selected so that the machine may not be thrown out of balance. After combs are uncapped with a hot knife, they are placed in the baskets of the extractor. A small part of the honey should be thrown out of one side of the combs which requires only a few revolutions, then the combs are reversed and all of the honey is thrown out of the opposite side, then the combs are again reversed and all of the honey is thrown out of the first side. This avoids placing too much strain on the mid-rib of the comb and results in a minimum of comb breakage.

How to Strain Honey

A small beekeeper with a hand machine may run the honey from the extractor into a pail, then strain the honey through two thicknesses of fine cheesecloth into a tank. During hot weather honey from the extractor will strain readily but during cool weather it may be necessary to heat the honey before straining.

How to Get Bees Out of Supers

Most beekeepers use a bee escape for removing the bees from supers of honey. This is a handy piece of equipment. The bee escape is placed in the opening at the center of the inner hive cover, then placed under the super of honey to be removed. When this is done in the forenoon, the super of

honey should be ready to come off the following evening. The bees travel down through two small pliable springs which are self-closing and do not permit the bees to return to the super. It is well to examine the super over the bee escape to see that no small openings are left. If even a small opening is left, the bees may enter the super and steal the honey, especially during a dearth of nectar.

A Word of Warning about Opening Hives

It is unwise to attempt opening hives to examine colonies when no honey is coming in. Bees are likely to start robbing and may sting the beekeeper and perhaps nearby neighbors. It is well therefore to use good judgment as to the time when the hives are opened for examination. When there is a good honey flow on bees can be worked more easily, in fact it may be unnecessary to use much smoke.

MORE ABOUT TWO LEGGED THIEVES

by DIGAMBAR MAHINDRE, Roxbury, N. Y.

I THINK this problem is common all over the world. While working as a supervisor for Beekeeping Centers of M. B. Khadi & Village Industries Board, Amkhut, India, I came across such a thing. There were 218 colonies at the centers. These were training centers. All the operations in beekeeping were taught to the villagers, with the view that people should keep bees for pollination, honey, and as a source of income.

After the first honey flow, we took out all the surplus honey and were getting ready for the next honey season. One morning I got a report from the center, six miles from my place, about the theft of honey from the colonies and the destruction of frames and bees. I was really angry and thought about checking it. After one week I got the same report. In reply I sent a note not to speak anything about the theft to any one in the village. This created an impression among the thieves that even if they committed a theft we would not say anything.

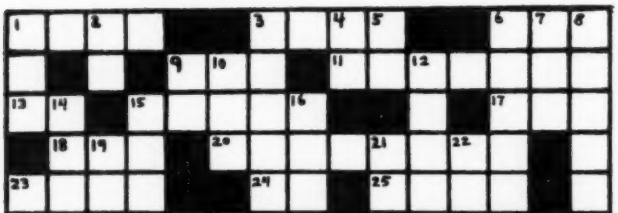
After the third night I with a helper started going to the bee yard and sitting there until midnight. We were going regularly without anybody's knowledge. One night we were sitting there as usual and heard a sound in the leaves. Two men came near and slowly opened the gate. Talking in low voices they were deciding which hive to open. They started their work and removed about four frames from the hive. They could not do any more as we put on our lights from both sides and recognized the persons. They tried to run but because of the wire they could not.

I told them not to be afraid as we were not going to send them to the police. I asked them to put the frames back. They did so. Finally I told them that they were in the yard for honey and now they were going without it, but I asked them to choose two hives which they thought the best, which I had decided to give them. However, they said they did not want any. I marked two hives for them and we went to the village. The thieves asked me not to disclose this matter before the village. In the morning those two hives were transferred to their house. No longer did this matter remain a secret.

People of the village knew that because of the theft they got the bee hives, but they also realized that if another theft were committed they would be treated in a different fashion.

I offered them all sorts of help needed until they knew about the bees. Now they are keeping bees. No theft was committed after this case.

Beekeeping Cross-word Puzzle



Solution will appear in next month's issue.

Mrs. R. P. SCHLABACH, Medina, Ohio

ACROSS

1. A female germ cell
3. Founder of Gleanings
6. Hasten
9. Prefix meaning over
11. Flowering tree or shrub
13. A country (abbr.)
15. Article worn in handling bees
17. Direction
18. A close friend
20. Crystalline sugar
23. A valuable timber tree
24. Thorofare (abbr.)
25. At a distance
26. Well known family in the bee industry
28. Tree of the linden family
31. Means of transportation (abbr.)
32. Square wooden frame used for comb honey
33. A correlative conjunction
35. English school
36. A bee sting is this
38. Organs of the body
40. River in Russia
42. A globe
43. Letter of the alphabet
45. Form of verb to be
47. Liberate
48. Specialist in beekeeping, last name
51. Space
53. Product made from beeswax
54. Professor of apiculture, last name
56. Unequal things or conditions
57. It might be a honey container
58. Close

DOWN

1. Italian goddess of the harvest
2. Overhead (adv.)
3. Splits
4. Natural power
5. Toward
6. Sweet viscid material
7. Electrified particle
8. A swelling
9. Public conveyance, (abbr.)
10. Seed carrier
12. To flourish
14. Home for bees
15. Publication for apiculturists
16. Used to remove honey from combs (pl.)
19. A conjunction
21. Breeding
22. Fashionable assemblage
23. Remunerated (abbr.)
27. Scent
28. A protective covering for beekeepers
29. Long loose garment reaching to the feet
30. Misery (obsolete spelling)
31. To irritate
34. Extension apiarist, last name
37. To run an apiary
39. What a barker does at a circus
41. Indefinite article
44. Curve
46. Good with honey at tea time
47. Seedless plant
48. Father
49. Measures of length (abbr.)
50. Permit
52. Note of the scale
53. (abvr.) for the members of a partnership
54. Printer's measure
55. President of the United States (abbr.)

Asked & Answered

Concerning Beeswax Prices

Q. When the price of crude beeswax goes down or up in price why does not the price of comb foundation immediately follow the up or down trend?

A. It does but not "immediately". The reason is this; beeswax is harvested in the early fall months and most of it is sold to the supply manufacturers before the first of the year. The supply manufacturers send their catalog prices to the printers in late November, making their best guess as to what the average cost of beeswax will be for that season. Normally the average cost is pretty well known by this time because most of the wax that will be used for the comb foundation has already been bought.

Foundation is made up during the winter months and shipped out in the spring to those who purchase it. If the supply manufacturer finds his stock of wax larger than he is likely to need or use, the offered price of the wax is dropped, for a supply manufacturer is always in the market and the only protection against becoming over-stocked is by reducing the price to a point where some of the wax will go to other buyers.

For the producer of beeswax who failed to sell his wax at the top price last fall he may have it made up into comb foundation at only the make-up charges.

On the Use of Cyanogas to Destroy Hives

Q. Does the use of Cyanogas to destroy bees make the honey in the combs unfit or unsafe for human consumption?

A. A few years ago this question was referred to James I. Hambleton, Dvision of Bee Culture and Biological Control, Beltsville, Maryland and he replied as follows: "The edibility of honey from the supers of hives of bees that have been gassed with cyanogas is not affected, provided the honey is first thoroughly aired to permit all fumes of the gas to escape. Of course, the cyanogas should not be dropped into the honey."

Multiflora Rose for Nectar and Pollen

Q. Do bees get nectar and pollen from multiflora rose?

A. I do not have any good news about multiflora rose as a honey plant. I have never received any information that it was valuable to beekeeping in several years of correspondence. I have several in my yard and have not seen bees on them and have been visiting a reservation where there is a long hedge of multiflora rose. In general, roses are pollen plants and most observers agree that they are entirely or almost entirely devoid of nectar. If multiflora rose is valuable at all, it is for pollen. In Kentucky, the plants bloom early and stay in bloom for only a few days. As hedge plants and as shelters for wild life I consider multiflora rose one of the best possible plants. Birds nest in the bushes more than in most species of shrubs. The fruits are numerous and easily eaten and are much sought after as a winter food by both birds and mammals. Multiflora rose has so many good qualities that it will certainly continue to be planted extensively. Unfortunately it does not appear to offer much to the beekeeper except wind protection and a little pollen in areas where pollen may be scarce.

Lacquering Inside of Honey Tanks

Q. Are galvanized honey tanks safe or should they be painted with aluminum paint, and then again painted with a lacquer?

A. For temporary use, such as in a honey extractor or uncapping can, the honey is in contact with the galvanized metal for so short a time that the slight action of the weak acids in honey on the zinc is almost unnoticeable. For honey tanks, galvanized steel has been used successfully for a great many years. While no one has reported salts of zinc in the honey, the slight darkening of the metal after months would indicate that lacquering the inside of the tank before use would be a safe procedure. This would cover not only the zinc in the galvanizing but the lead in the solder used on the seams. For the sake of safety, honey should not be in contact with solder for extremely long periods.

Just News

Paul Asher, 54, well known Hastings, Minnesota beekeeper and inspector passed away suddenly May 19 from a heart attack. Paul was born in Durand, Wisconsin. He was interested in bees and beekeeping at an early age and took an active part in the control of bee diseases of this area and has been a State Bee Inspector in Minnesota for a number of years. He held the office of Vice President of the South-Eastern Minnesota Beekeepers' Association at the time of his death. His wife, (Elizabeth), two sons, and five daughters are left to mourn the loss of a devoted father and husband. —F. Q. Bunch, Secretary.

Michigan summer picnic will be held at Ionia Free Fair Grounds on Friday, July 18, 1958. We expect the usual good turn-out to the annual picnic again this year. There will be a good program but not too crowded to allow time for visiting. Bring something for the potluck dinner and enough so there will be a snack left for supper. Coffee and ice cream will be provided. If you are interested in beekeeping, you are welcome.—Michigan Beekeepers' Assn.

The **Stark County Beekeepers' Association** at the May meeting elected the following officers for the coming year. Lester Snider, President; Jacob B. Rentch, Vice President; James D. Dray, Secretary and Treasurer. The meeting was held at the residence of Mr. and Mrs. H. G. Daugherty of 2421 Broad Ave., N. E., Massillon Ohio. Twenty-five members attended this meeting and three new members were taken in. The Stark County Beekeepers will meet again on July 27, at the home of Louis Meyers of 3417 Bailey Rd., N. E., Massillon, Ohio at 2:30 p.m. D.S.T. All beekeepers in this vicinity are invited to attend.—J. D. Dray, Sec.

The **Penna. State Beekeepers' Association** will hold its regular summer meeting and picnic, August 16, at Valley Forge State Park in Montgomery County. Several good speakers will discuss timely topics. A new Honey Queen for '58 will be crowned. Bring your eats. Beverage will be furnished by our host Montgomery County Beekeepers' Association.—A. R. Dean, Sec.

The **Luzerne County Beekeepers' Association,** in Pennsylvania will have a twilight meeting and outing on July 9, 1958.

The annual summer meeting of the **Iowa Beekeepers' Association** cooperating with the **Nebraska State Beekeepers' Association,** will be held on July 12 at Council Bluffs, Iowa, with The A. I. Root Company as host. The program of national speakers is being developed. The forenoon will be devoted to registration, a tour of the plant and games. The potluck lunch will be at the Kiwanis Park and the program will be given at the park in the afternoon. Every beekeeeper is invited. — F. B. Paddock, Extension Apiarist.

Man Found Guilty of Bee Violations.

BRYAN—Chester Kintner, Route 1, Alvordton, was found guilty Wednesday by Williams county Judge L. S. Hall, Bryan, of violating the apiary regulations and inspection laws of Ohio as charged by state inspector, Wendell P. Smith, Rt. 1, Sunbury.

Kinter was charged with five violations: Two counts of failure to register with the state and the exact location of his bee colonies for the past two years, and other charges of removing bees and equipment from an apiary, quarantined for diseased bees, selling bees and equipment from a quarantined apiary and hindering an authorized inspector in the discharge of his duties.

Judge Hall imposed a fine of $200 and $34.04 costs.

Inspector Smith said Kintner had previously been convicted of transporting diseased bees and equipment from Michigan. — Defiance Crescent News, April 13, 1958.

The **Hampden County Beekeepers' Association of Mass** announce the dates and locations of their next three meetings. They are as follows: July 13, at the home of Mr. and Mrs. Charles Maxley, Woodruff Hill Road, Huntingdon, Mass. Our annual hot dog and coon roast will be held August 10th,

at the home of Mr. and Mrs. Albert E. Johnson, 206 Meadowbrook Road, E. Longmeadow, Mass.; and on September 7th at the home of Mr. and Mrs. Peter Musinski, 177 Jamica Street, Springfield, Mass.—Elsie O. Johnson, Sec.-Treas.

The next meeting of the **Crawford County Beekeepers' Association** will be held Friday, June 27, at Ralph Spring's home, R. D. 1, Meadville, Pa.—Alice Reynolds, Sec.-Treas.

The **Apicultural Society of Rhode Island** will hold its meeting at East Farm, University of Rhode Island, Kingston, at 2 P.M. July 20. A speaking program is being arranged and an inspection of the bee yards will be made. Beekeepers within traveling distance of Rhode Island are cordially invited to attend this meeting. If it rains meeting will not be held.—Wulf Kroekel, Corres. Sec.

Eugene S. Miller, Valparaiso, Indiana, a well known beekeeper and outstanding citizen passed away on May 13 at the age of 97. After graduating from Indiana Normal School he received his B.A. and M.A. degrees from Indiana University in 1901, then became principal of several high schools in the state. In 1912 he retired from his teaching career and engaged in beekeeping. He held offices in national and regional beekeepers' associations. During the years Mr. Miller was a frequent contributor to Gleanings as well as other journals and since he was an astute student of bee behavior his articles were read with unusual interest. He was also active in many civic organizations. Certainly such an outstanding person who made such an unusual contribution to life will not soon be forgotten. One may truly say of him, "His life was gentle and the elements so mixed in him that Nature might stand up and say to all the world, 'this was a man' "

The **Midwestern Beekeepers' Association** will meet at the home of Frank Ellis, 5320 Maywood, Raytown, Missouri, at 2:30 P.M., Sunday, July 13, 1958. Topics for discussion are: "Removing Supers" and "Extracting". Refreshments will be served. Everybody welcome.—Carroll L. Barrett, Sec.

PROGRAM
Illinois State Beekeepers' Summer Meeting and Banquet
Sponsored by
St. Clair Beekeepers' Association
Belleville, Illinois
July 19 & 20, 1958
at the Turkey Hill Grange

H. E. Dale, President of the Illinois State Beekeepers' Association, Presiding
DST
10:00 A.M. Registration, R. R. Hyde
11:00 A.M. Apiary Inspection, C. E. Killion, Chief Apiary Inspector of Illinois
1:30 P.M. Subject to be announced, John W. Buchanan, Sales Mgr., The A. I. Root Co., Medina, O.
2:00 P.M. Royal Jelly, Leslie Little, State Apiarist of Tenn., Shelbyville, Tenn.
2:30 P.M. Subject to be announced, Walter T. Kelley, W. T. Kelley Co., Clarkson, Ky.
3:00 P.M. Demonstrations, (outside in the shade) Geo. L. Hankammer, Pres., St. Clair Beekeepers' Association, Belleville,, Ill.
4:30 P.M. Midnights, M. G. Dadant, Dadant & Sons, Hamilton, Ill.
5:00 P.M. Recent Observations, Dr. Milum, Apiculturist, Univ. of Ill.
5:30 P.M. Trace Elements, Dr. E. R. Spencer, PhD, Botanist & Plant Pathologist, Lebanon, Ill.
6:00 P.M. Legal Aspects of Beekeeping, Geo. C. Nagel, Councilor in Advertising, St. Louis
7:00 P.M. Banquet. Geo. C. Nagel, St. Louis, MC

The meal served at the banquet will be a fried chicken dinner, prepared and served by the ladies of the Turkey Hill Grange. Entertainment will be a girl's quartet and two films, Bees For Hire and Bee Breeding.

Reservations for the banquet cannot be accepted later than July 15. Reservations should be mailed to R. R. Hyde, 1414 Prairie Ave., Belleville, Ill., together with check or money order for $2.50 along with the registration slip.

Sunday, July 20, 1958

The conducted tour to Scott Air Force Base will be very interesting.

The Protestant Church service will be for beekeepers. The sermon will be on Bees and Honey in Biblical times.

Other entertainment will be a visit to a local bee yard.

The summer meeting of the **Minnesota Beekeepers' Association** will be held July 25 and 26 at Detroit Lakes, Minnesota.—Geo. McReynolds, Sec.

Dr. R. L. Parker of the Kansas Entomological Commission, also State Apiarist retired July 1. He has been serving beekeepers and people of Kansas for the past 33 years. Dr. Parker is to be congratulated on the excellent service he has rendered during the years. He is being succeeded by Roger B. Boren as state apiarist and editor of Kansas Beekeeper. His address is Kansas Entomological Commission, Kansas State College, Manhattan, Kansas. We wish Mr. Boren success in his future work.

The **Iowa-Nebraska Beekeepers' Associations** will hold a picnic meeting at The A. I. Root Co. of Iowa, Council Bluffs, on Saturday, July 12th. The meeting will start off with Registrations and Coffee at 10:00 A.M. to be followed with bee demonstrations with questions and answers at 11:00 A.M. At 12:00 noon, there will be a potluck picnic dinner at the Kiwanis Picnic Grounds in Council Bluffs. Free coffee and ice cream will be served at 1:30 P.M., there will be a good program. All beekeepers are invited to bring their picnic basket and enjoy this day of fellowship and information.

SUMMER MEETING

Ohio State Beekeepers' Association
Hale's Hall, Fairgrounds, Medina, O.
July 26th and 27th
Theme "Youth in Beekeeping"

A.M. DST

10:00 Registration and gathering at Hale's Hall—H. R. Swisher and Fred Opplinger
10-12 Tour the Root Co. plant
12:00 Basket picnic lunch, Hale's Hall

P.M.

1:00 Smoker contest. Juveniles and adults (everybody is urged to bring their smoker)—Fred Opplinger in charge
1:30 Welcome—Pres. H. Vandenberg
1:45 Advice for a young man planning a lifetime with bees—Geo. Rehman
2:15 Some common errors made by the beekeeper—Chas. Reese, Extension Apiarist
2:45 Interesting experiences in beekeeping—Seymour Bailey, State Apiarist and panel
3:15 Demonstrations with actual hives of bees for the 4-H boys and girls. Hiving a swarm; Installing a 3-pound package; Manipulating a colony. In charge will be John Root, Managing Editor of Gleanings assisted by 4-H advisors
4:00 Films: County Agents; Bees for Hire
4:30 Questions and Answers —Jack Deyell in charge
5 - 7 Visiting, lounging, refresh for banquet
7:00 Banquet at Hale's Hall
M.C.—Alan Root
Introductions, Film, Guest speaker, James D. Wells, executive assistant to the director of Ohio Dept. Natural Resources; Subject "A Broad Look at Ohio"

July 27th

Hale's Hall will be open at 10 A.M. for visiting and lounging.

P.M.

1:00 Frame nailing contest
1:30 Building up colonies for honey flow. Bee stings less painful—Geo. Rehman
2:00 Honey, the sweet nature makes ready to eat—Dr. W. Dunham. Ohio State University
2:45 Let's quiz the experts, audience participating. Panel, Charles Reese, Seymour Bailey, Jack Deyell, Dr. Dunham
3:30 Films
4:00 Demonstrations and finals in frame nailing contest
4:30 Drawings for free prizes—H. R. Swisher in charge

Auxiliary Program

Ladies bring your original honey recipe. Bring recipe prepared and a written copy of recipe, to be displayed and judged for prize at the meeting, Saturday, July 26th, 2:00 P.M. Speaker, Mrs. Ernest D. Gilbert—"Homemaking in Japan".

The **North Carolina State Beekeepers' Association** will hold its annual summer meeting at Cullowhee, August 15-16. An interesting program is being planned and a cordial invitation is extended to all.

(Continued on page 441)

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 18c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month, preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. THE HUBBARD APIARIES, ONSTED, MICHIGAN.

IOWA honey, one can or truck loads. RUSSELL D. SMALLEY, BEAVER, IOWA.

CLOVER extracted honey in sixties. ABRAM BRUBAKER, RT. 2, LANCASTER, PA.

MICHIGAN'S FINEST WHITE CLOVER HONEY. New sixties. Fully ripened. You'll be pleased. Sample 20c. JOHN McColl, TECUMSEH, MICH.

TUPELO, wild flower or buckwheat in 60's. Honey candy. EN-R-G FOODS, INC., BOX 232, LANCASTER, PA.

FOR SALE—Clover extracted in cans. EARL M. ALEXANDER, R. R. 2, RICHMOND, IND.

MICHIGAN'S finest raspberry, basswood, clover comb honey, in 4 x 5 window cartoned sections. Deluxe extra fancy, $9.00; Extra fancy, $8.00; Fancy, $7.00; No. 1, $6.00; No. 2, $5.00 case. E. Z. QUICK WAY B FARMS, BOYNE FALLS, MICHIGAN.

Large lots quality honey, 60's and drums. NORTH CENTRAL HONEY PRODUCER'S LEAGUE, BOX 211, BELLEVILLE, WIS.

COMB HONEY in beeway sections also chunk and extracted honey. GEO. REHMAN 303 GILLETTE AVE., NORTH BALTIMORE, OHIO.

HAVE YOU tried our comb and extracted honey? SMITH APIARIES, CLAYVILLE, N. Y.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—All grades of extracted honey. Send sample and price. DEER CREEK HONEY FARMS, LONDON, OHIO.

CASH FOR BEESWAX. Write as to quantity and we will quote price. MEUNCH-KREUZER CANDLE CO., INC., SYRACUSE, N. Y.

WANTED—White extracted or comb honey. Send sample. MILLERSPORT HONEY CO., MILLERSPORT, OHIO.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. THE A. I. ROOT COMPANY, MEDINA, OHIO; COUNCIL BLUFFS, IOWA; SAN ANTONIO, TEXAS.

WRITE FOR SHIPPING TAGS and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. WALTER T. KELLEY CO., CLARKSON, KY.

WANTED — Light amber clover, fall flowers, buckwheat and white clover. Send sample and lowest price. CLOVERDALE HONEY CO., FREDONIA, N. Y.

WANTED—Honey in 60 pound cans, also beeswax any quantity. L. E. ALLEN, TIPTON, MICH.

WANTED—Buckwheat and light amber honey. EASTERN FOOD PRODUCTS, 421 BEDFORD AVE., BROOKLYN, N. Y.

CASH for Amber and Buckwheat Honey. Best cash price for wax. HUBBARD, ONSTED, MICH.

WANTED, chunk comb and extracted honey. Mail sample and price. STOLLER HONEY FARMS, LATTY, OHIO.

WANTED light amber extracted honey in 60's. Also for sale 3000 empty 60's, 20 cents up. HONEYMOON PRODUCTS CO., 39 E. HENRY ST., RIVER ROUGE, MICH.

We render cappings, old combs and buy your beeswax. Shipping tags sent on request.—M. R. CARY CORP., 219 WASHINGTON SQUARE, SYRACUSE 8, N. Y.

FOR SALE

WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. THE HUBBARD APIARIES, Manufacturers of Beekeepers' Supplies and Comb Foundation, ONSTED, MICHIGAN.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

Makers of ROBINSON plain and WAVY-WIRED foundation. Also render and buy beeswax. Order direct from manufacturer and save dealer costs. Shipping tags free. WAX WORKERS, INC., ITHACA, N. Y.

SMALL organic farm and 30-hive apiary near Gulf coast. BRIGHT BEE HONEY FARM, SILVERHILL, ALA.

FOR SALE: 4-frame reversible Root extractor, with power pulleys, 90 gallon double boiler galvanized tank, uncapping table. ORLO FOSTER, 391 PERRY ST., PERRYSBURG, OHIO

FOR SALE—8 frame reversible Root extractor, 12" x 27" baskets. Good condition. A. FOWLS, 284 EAST COLLEGE ST., OBERLIN, OHIO.

LIFETIME TANKS for BRAND MELTERS made of ⅛" boiler plate, galvanized after welding, offered by A. G. WOODMAN CO., GRAND RAPIDS, MICH.

FOR SALE: 100 shallow supers with drawn comb, no disease. Reasonable. ADOLPH MOESCH, BONDUEL, WIS.

FOR SALE—empty 60-lb. cans, 20c to 40c depending upon condition. HONEY PROCESSORS, INC., FREEVILLE, N. Y.

SURPLUS FOUNDATION, $1.25 lb. plus postage. Up to 35c paid for buckwheat and basswood section honey, 1958. JOHN RIELEY, BEAVERTON, MICHIGAN.

SIMPLICITY 20-frame extractor, motor and drying plates. Good condition. HANS CHRISTENSEN, DECATUR, MICHIGAN.

CLEAN USED 60-lb. cans, also paper cases. L. D. TAYLOR, HARLAN, IOWA.

BEES AND QUEENS FOR SALE

CARNIOLAN and CAUCASIAN Bees for 1958. Booking queens. Each, $1.00; 2-pound bees with queen, $4.00. 3-pound bees with queen, $5.00. LEWIS & TILLERY BEE CO., RT. 3, BOX 251, GREENVILLE, ALABAMA.

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

FOR SALE—15 colonies, disease free. 10-frame painted hives and immense amount of equipmen . C. C. MILLER, ROANN, IND.

3-band Italian and Carniolan queens, $1.00. LUTHER PICKETT, EFLAND, N. C.

PRODUCTIVE ITALIAN QUEENS—$1.00 each. 10 up, 90c. SHIRL BAKER, MECOSTA, MICH.

45 colonies of bees, 10-frame 2-story, 8 frames brood, $9.00 each., must take all. Extra supers, $2.50. Send stamped envelope. HUBERT MARTIN, DRYRIDGE, KY.

QUEENS, QUEENS. Extra good workers and very gentle. Starline and our regular strain. Regular queens, $1.00 each, Starline, 1 to 25, $1.30; 25 to 100, $1.15; 100 up, $1.00 each. Orders shipped same day received. ALAMANCE BEE CO., GEO. E. CURTIS & SONS, GRAHAM, N. C.

SEEDS

HONEY PLANTS our specialty. Catalog on request. PELLETT GARDENS, ATLANTIC, IOWA.

MISCELLANEOUS

BEES REMOVED from house or tree or hive without touching either house or bees. Bees will then move honey into hive. Save property, honey, and bees with my method. Send $2.00 for details. Satisfaction guaranteed. GEORGE HAWKINS, RT. 1, LAWSON, MO.

WANTED: To buy bee outfits and bee equipment in any area. We have buyers for outfits, regardless of size. SIOUX HONEY ASSOCIATION, Supply Dept., SIOUX CITY, IOWA.

Our book, HOW TO KEEP BEES AND SELL HONEY, 75 cents post paid is the best beginner's book and costs the least. Over 100 pages and over 175 photos shows you how. WALTER T. KELLEY CO., CLARKSON, KY.

WANTED—100 to 300 colonies of bees, now or in the fall. NORMAN SHARP, FISHERS, N. Y.

ROYAL JELLY

ROYAL JELLY (with Vitamin B-1 and Calcium Pantothenate) box of 30 capsules with 25 mg. Royal Jelly per capsule $2.15 to beekeepers, retails for $4.25, box of 30 capsules with 50 mg. Royal Jelly per capsule, $3.50 to beekeepers, retails for $7.00, box of 100 in bulk 50 mg. new pack without vitamins $7.50. Postage paid in the U. S. PRAIRIE VIEW HONEY CO., 12303 12th ST., DETROIT 6, MICH.

FOR ROYAL JELLY, quality and quantity, contact OVERBEY APIARIES, BUNKIE, LA.

ROYAL JELLY, box of 30 capsules, 25 mg. each, $3.75, 10 boxes, $18.75, 50 mg. box of 30 capsules, $6.00, 10 boxes, $30.00. Special pack 50 mgm. bottle of 100, $6.50, box of 30 capsules, $2.75. SUNNYBROOK HONEY FARMS, 13600 LIVERNOIS, DETROIT 38, MICHIGAN.

ROYAL JELLY BEAUTY CREAM in ¾-oz. jar, $1.25 to beekeepers, retails for $2.50; 1-oz. jar, $1.50 to beekeepers retails for $3.00; 2-oz. economy size, $2.00, retails for $4.00. PRAIRIE VIEW HONEY CO., 12303 TWELFTH ST., DETROIT 6, MICHIGAN.

MAGAZINES

THE SCOTTISH BEEKEEPER (The official organ of the Scottish Beekeepers' Association.) Scottish in character, international in appeal. Annual subscription $2 post free. Sample copy from ROBERT N. H. SKILLING, F.S.C.T., 87 KING STREET, KILMARNOCK, AYSHIRE.

Archiv fur Bienkunde, International journal for Bee Culture and beekeeping economics. Founded in the fall of 1918. Oldest economic bee journal in the world. Praised again and again for its decades of independent leadership through many endorsements and advice as a valuable source also for the practice. Classic. Yearly DM 5.50. Any aspiring beekeeping friend will receive a sample copy. BIENE-VERGLAG, GIELBACK, LINDAU, GERMANY.

BEE WORLD, the international journal of the Bee Research Association published monthly, contains the latest research reports on bees and beekeeping. With Apicultural Abstracts it costs $5.50 per annum, or $6.00 including membership of the Bee Research Association. Apicultural Abstracts only $4.50 per annum from the Hon. Subscription Secretary, Bee Research Association, 10 BARNETT WOOD LANE, ASHTEAD, SURREY, ENGLAND.

AFRICAN BEEKEEPING, successor to the S. A. Bee Journal, monthly, sub. 10/- per annum. THE EDITOR, P.O. Box 4, Bergvliet, C. P., South Africa.

Know interesting facts concerning the bees of India, about species of bees found in India only, through the INDIAN BEE JOURNAL, published from India in English. Annual Subscription $2.25, sample copy 40 cents. Old Volumes $2.50 per year. Obtainable through the A. I. Root Company, Medina, Ohio, U.S.A. to whom the dollar might be remitted.

GOAT MILK—Healthful food, profitable business, learn how. Monthly magazine $2. yearly. DAIRY GOAT JOURNAL, COLUMBIA T3, MO.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, Box 189, San Angelo, Texas, the only ranch magazine published serving the Angora Goat Industry. Subscription $3.00. Sample copy 25c.

Our Cover

HONEYBEES BUILDING COMB. What is more beautiful than newly-built pearly-white virgin comb produced and constructed by the worker bees! They hang in festoons underneath the comb while secreting wax. The walls of its cells are so thin that 2000 to 3000 of them must be laid one upon another to make an inch in thickness.—Photo by W. Wittenkindt, Bonn, Germany.

Caucasian or Italian

QUEENS

Tops in quality, gentle and good honey producers.

Price

1 - 25	$1.00
25 - 50	.95
50 - 100	.90

FARRIS HOMAN

Shannon, Miss.

The fourth annual meeting of the **Eastern Apicultural Society** will be held August 7 to 9 at the University of Massachusetts in Amherst. All preceeding conferences were so successful that a much larger attendance is anticipated this year. Nationally known speakers will appear on the program. Those from out of state desiring housing space in dormitories should send their registration of $4.00 well in advance to F. R. Shaw, Fernald Hall, Amherst, Mass. More details will appear in the August Gleanings.

The **Northwestern Pennsylvania Beekeepers' Association** will hold their annual picnic at Burgesse Park, Titusville, Pa., Tuesday, July 29 from 10 A.M. to 6 P.M. Will have speakers from bee supply companies from out of state. Contests and prizes for young and old. Be sure to bring a well-filled picnic basket. Come one and all to enjoy yourself.—Alice Reynolds, Sec.-Treas. Crawford County Beekeepers.

The July meeting of the **Middlesex County (Mass.) Beekeeper's Association** will be held at the home of Mr. and Mrs. Paul Bilezikian, Newtonville, Mass. At the June meeting the newly elected officers were all present: John H. Furber, Pres., Asa Olsen, Vice Pres., Douglas G. Pamplin, Rec. Sec., Lolita Pamplin, Corres.. Sec., Henry G. Neunzer, Delegate.—Lolita Pamplin, Corres. Sec.

Errata

The front cover page of June 1958, Gleanings, was, through an error, credited to William Karraker of Connecticut. As a matter of fact the picture was furnished by Thomas Doonan, 8924 Buena Vista Court, Des Moines, Iowa. It shows his daughter Cheryl, then 11 years old installing brass eyelets in end bars of frames. Mr. Doonan is a sideline beekeeper, also an engineer for WHO-TV in Des Moines. We regret that this error occurred.

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

Booking orders now. Over 30 years a shipper. Send for Free Circulars.
BLUE BONNET APIARIES
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J. E. WING & SONS
45 Years Continuous Service
Italian Package Bees
and Queens
Our Specialty
Knights Landing, Calif.

LITTLE'S
ITALIAN QUEENS
1 to 24 ..... $1.45
25 to 99 ..... 1.35
100 and Up 1.25
Until June 15
ROYAL JELLY
Bulk & Capsules Write for Prices
LITTLE'S APIARIES
Shelbyville, Tennessee

BUILD your own FACTORY TYPE HIVES and SUPERS with SAMPSON CORNER JOINTS. Only a bench saw and hand tools required. Our low cost Copyrighted BLUE PRINTS and INSTRUCTIONS cover everything and can save you many dollars. Write for information.
EARL TAYLOR MALCOM, IOWA

ITALIANS
Queens, $1.25 Bees, $1.00 Cages, 50c
Royal Jelly by contract
Sioux Member 905
NASSAU BEE CO. HILLIARD, FLA.

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Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
C. W. AEPPLER COMPANY
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CONNEAUT
60 lb. Cans
Superior Cans
Better Service
Endorsed by Producers & Packers
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NORMAN'S QUEENS
65c each
by
Return Mail

BRIGHT 3-BANDED ITALIAN BEES AND QUEENS. Highest quality, purely mated, good producers. Safe arrival and satisfaction guaranteed. State Health Certificate furnished.

Untested Queens	$ .65
Tested Queens	1.30
3-lb. pkgs. w/q	4.00
4-lb. pkgs. w/q	5.00

Package bees shipped F.O.B. Express or via Parcel Post. Add Postage.

JOHN A. NORMAN
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ITALIAN
QUEENS **QUEENS**
No expense spared
to produce the best.

1 to 24	$1.25 each
25 to 49	1.10 each
50 and over	1.00 each

Airmail — Postpaid
Live delivery guaranteed

John S. Shackelford
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Phone: Wheatland, Calif. NEptune 3-2392

COMPETING FOR CLEARNESS

(Continued from page 397)

thing larger. These strainers can be removed and emptied from time to time to prevent excess accumulations of wax particles in the bags and thus prolong their use.

Since the honey usually leaves the extractor at room temperature care should be taken to regulate the flow so that the first strainer will not overflow at the start. To prevent such a mishap it may be necessary to stir the honey with a spoon to loosen the wax particles in each strainer and to insure a steady run into the muslin bags, Once regulated, the flow can be maintained at a definite speed if the wax strainers are emptied at definite intervals. See diagram.

If the weather is cold and there is little or no heat in the honey house, the heat of a 100 watt bulb reflected on the first strainer will help to warm the honey as it leaves the extractor.

Particles of wax that pass through both strainers tend to slow down and settle in the first bag while the honey is heating. Until the honey in the double-boiler has risen high enough to heat the honey from the extractor quickly there may be some danger of overflowing from the top of the funnel, but again, a little caution at the start can prevent any such accident.

The honey that passes into the second bag passes through it more quickly because most of the wax particles have been removed and because it is in direct contact with the heat. Here the finest wax particles settle and remain as the honey passes into the tank to continue heating. At this point there is very little, if anything left in the honey to make it murky and the product that results is almost crystal clear, a product that can compete with any filtered honey on the market.

HOLLOPETER'S
ITALIAN QUEENS
June to November
$1.00 each
WHITE PINE BEE FARMS
Rockton, Pa.

QUEENS

CAUCASIANS AND ITALIANS

The package season being practically over we will have lots of good queens ready for mailing at any time.

Let us supply your needs.

PRICES

In Lots of	Queens	2-lb. & Q.	3-lb. & Q.	4-lb. & Q.	5-lb. & Q.
1 - 24	$1.00	$3.85	$4.70	$5.55	$6.35
25-499	.90	3.35	4.20	5.05	5.85

TESTED QUEENS, $2.00 each

Queens Postpaid — Airmailed and/or clipped
No Extra Cost — 10c each for Marking.
Packages F. O. B. Shipping Point

THE STOVER APIARIES

Mayhew, Miss.

YORK'S QUALITY BRED QUEENS

Dadant's Improved STARLINES or YORK'S Quality Bred Italians

PLUS

First and Finest Caucasian type hybrid — DADANT'S MIDNITES

Quantity	1-24	25-99	100 up
Italians	$1.00	$ .90	$ .80
Starlines or Midnites	1.30	1.20	1.00

Clipped and marked 15c each additional

The Preference of Leading Honey Producers

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We specialize in quality and service.
Large and small orders appreciated.
Prices: 1-24 ... 90c 25-100 ... 80c
100 up ..... 75c each

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Italians Caucasians
Nice large queens, 75c ea.
If air mail, ... 80c ea.

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is a good time to requeen or make increase with high producing Carniolan or Caucasian queens. Pleasure to work with these gentlest of all bees. **Queens $1.40 air mail.** Discount on quantity.

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Caucasian QUEENS	Midnite Hybrid QUEENS
1-24 .... $1.10	$1.35
25-99 ... 1.00	1.25
100 and up .90	1.10

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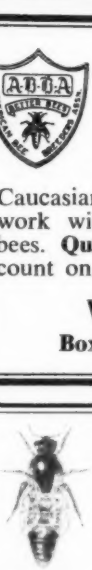

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75c
By Return Mail

BRIGHT 3-BANDED ITALIANS
37 Years as Shippers
—PRICES—
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All queens postpaid. Packages F.O.B.
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For your summer and fall queen needs we offer you an outstanding Strain of Three-Band Italians and can furnish Select Young Laying Queens promptly on receipt of your order. Caged fresh from our yards and Rushed to you Prepaid by Air Mail.

Prices
1-9, $1.00 ea. 10-49, 90c ea. 50 up, 80c each
Tested Queens ..... $2.00 each
Quality Does Not Cost — It Pays

THE WILBANKS APIARIES Claxton, Georgia

SAFE AND SIMPLE QUEEN INTRODUCTION

(Continued from page 423)

tion, and I am surprised that it is not better known and more widely used. In the foregoing account, written for beginners, I have tried to describe every detail, which makes it appear more complicated than it is. In reality, it is easy. Furthermore (though there is always **some** risk in introducing to a full colony a queen who has travelled through the post) it is a very safe method.

I once introduced a dozen bought queens by the ordinary use of the Benton postal and introduction cage, carefully carried out as recommended by the breeders, and another dozen queens, likewise mailed to me, by Simmins's direct method. Of the caged queens, nine were accepted and three destroyed; but of the queens introduced directly, all 12 were accepted. I think it is an advantage that the queen be given her freedom two or three days earlier by the latter method rather than by the former.

THANK YOU:

each and every one for your patience and understanding in our problem of delayed shipments. It is neither our desire nor practice where it can possibly be avoided.

Early weather conditions were such that we could neither produce queens nor build up our colonies.

For those, who, we could not accept your order we are extremely sorry. Please always place your order early to avoid disappointment and delay.

Summer & Fall Queens

	Reg. stock	Island Hybrid
1-25	$1.10	$1.40 each
26-99	1.00 ea.	1.30 each
100 up	.90 ea.	1.20 each

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Dadant Starline Hybrids & Garon's 3-Banded Italians

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Upon request queens clipped or marked. Airmail postpaid.

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"Renee" Brand QUEENS

1 to 25 ..... $1.20
26 up 1.10

Live Delivery Guaranteed
Satisfaction or money back
Airmailed, clipped on request

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Our BETTER-BRED Queens will please you. Buy them and be among our many satisfied customers. They are backed by 30 years of queen breeding. Any quantity, 80c each, shipped Airmail.

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QUEENS
QUALITY BRED ITALIAN

June through October, $ .75 ea.
November & December, 1.40 ea.

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Select queens ..... .75
Tested queens (1 or 1000) 1.50

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100-up	.90	1.10

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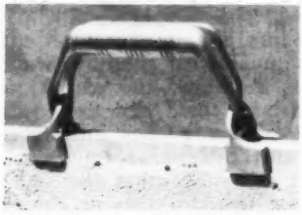

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Cut Comb and Extracted
Advise what you have

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50 or more ..... 75c each

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Either Dadant Starline Hybrids or our own Magnolia State Italians will please you, we honestly believe.

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$1.30	$1.15	$1.00	$1.00	$ .95	$ .90

Clipped & Marked FREE. Air Mail where expedient.

"Right Now Service"

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Italian Queens
$1.10

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Top quality superior strain by 46 years experienced queen breeding.
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QUEENS QUEENS QUEENS

ITALIANS OR CAUCASIANS;
Your choice, each
TOPS FOR QUALITY
DEPENDABLE SERVICE

ITALIANS known as the OLD RELIABLE; widely used everywhere. **CAUCASIANS** more thrifty, build to great strength quickly. Build white comb which is much admired in chunk or sections. Winter well where others fail. Most gentle bee known. Prompt shipment; disease free. Other information available.

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"For greater profits, use first quality. SUE BEE Foundation does not cost. . . .it pays. You will be pleased with the supreme quality that makes SUE BEE the finest. Write for our prices and working charge rates.

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5 lb. Powdered Sulfa	19.50	Leather Bee Gloves	1.90
100 lb. Soy Flour	12.50	Wire Folding Veils	1.50
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KELLEY ISLAND queens by the thousand are available now. If you are in a rush count on us for quick shipment by return air mail.

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